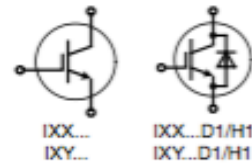


Discrete XPT™

600V XPT™ Planar IGBTs

XPT = Xtreme light Punch Through, short-circuit rated IGBTs



Part Number	V _{CE(s)}	I _{CAS} T _C = 25°C	I _{C110} T _C = 110°C	V _{CE(sat)} T _C = 25°C	t _{tr} typ. T _J = 150°C	E _{sw} typ. T _J = 150°C	R _{th(jc)}	Diode	I _{F110} Diode T _C = 110°C	R _{th(jc)} max. Diode	P _c	Fig. No.	Package style	
														Outline drawings on pages O-31...O-52
> New	V	A	A	V	ns	mJ	K/W		A	K/W	W			
B3 Class (5-30 kHz switching)														
> IXXQ 30N60B3M	600	33	19	1.85	180	0.7	1.66				90	X017c	X005a	TO-220AB
IXXH 30N60B3		60	30	1.85	180	0.7	0.55				270	X014a		
IXXH 30N60B3D1		60	30	1.85	180	0.7	0.55	• 30	0.90		270	X014a		
IXXA 50N60B3		120	50	1.8	190	1.2	0.25				600	X011b		
IXXH 50N60B3		120	50	1.8	190	1.2	0.25				600	X014a		
IXXH 50N60B3D1		120	50	1.8	190	1.2	0.25	• 30	0.90		600	X014a		
IXXP 50N60B3		120	50	1.8	190	1.2	0.25				600	X005a		
IXXR 100N60B3H1		145	68	1.8	200	2.8	0.31	• -	0.62		400	X016a		
IXXH 75N60B3		160	75	1.85	170	2.2	0.20				750	X014a		
IXXH 75N60B3D1		160	75	1.85	170	2.2	0.20	• 30	0.90		750	X014a		
IXXN 100N60B3H1		170	-	1.8	200	2.8	0.25	• 50	0.42		500	X027a		
IXXK 100N60B3H1		200	-	1.8	200	2.8	0.18	• 65	0.30		695	X020a	X011b	TO-263AB
IXXN 200N60B3H1		200	98	1.7	215	3.45	0.16	• 30	0.70		780	X027a		
IXXX 100N60B3H1		200	-	1.8	200	2.8	0.18	• 65	0.30		695	X015a	X011c	TO-263ABHV
IXXH 100N60B3		220	100	1.8	200	2.8	0.18				830	X014a		
IXXN 200N60B3		280	160	1.7	215	3.45	0.16				940	X027a		
IXXK 200N60B3		380	200	1.7	215	3.45	0.092				1630	X020a		
IXXX 200N60B3		380	200	1.7	215	3.45	0.092				1630	X015a	X014a	TO-247AD
IXXK 300N60B3		550	300	1.6	200	3.7	0.065				2300	X020a		
IXXX 300N60B3		550	300	1.6	200	3.7	0.065				2300	X015a		
C3 Class (20-60 kHz switching)														
> IXXH 30N60C3	600	60	30	2.2	32	0.4	0.55				270	X014a		
IXXH 30N60C3D1		60	30	2.2	78	0.4	0.55	• 30	0.90		270	X014a		
IXXH 50N60C3		100	50	2.3	90	0.48	0.25				600	X014a	X015a	PLUS247
IXXH 50N60C3D1		100	50	2.3	90	0.48	0.25	• 30	0.90		600	X014a		
IXXH 75N60C3		150	75	2.3	80	1.07	0.20				750	X014a		
IXXH 75N60C3D1		150	75	2.3	80	1.07	0.20	• 30	0.90		750	X014a		
IXXK 100N60C3H1		170	-	2.2	115	1.4	0.18	• 65	0.30		695	X020a	X015a	
IXXX 100N60C3H1		170	-	2.2	115	1.4	0.18	• 65	0.30		695	X015a		
IXXH 100N60C3		190	100	2.2	115	1.4	0.18				830	X014a		
IXXN 200N60C3H1		200	98	2.1	90	2.1	0.16	• 30	0.70		780	X027a		
IXXK 200N60C3		340	200	2.1	90	2.1	0.092				1630	X020a	X017c	TO-3PFP
IXXX 200N60C3		340	200	2.1	90	2.1	0.092				1630	X015a		
IXXK 300N60C3		510	300	2	90	2.35	0.065				2300	X020a	X014a	
IXXX 300N60C3		510	300	2	90	2.35	0.065				2300	X015a		
IXXA 30N65C3HV	650	52	30	2.2	78	0.4	0.65				230	X011c		

X027a SOT-227B miniBLOC



X020a TO-264



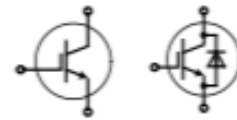
X016a ISOPLUS247™



Discrete XPT™

650V XPT™ Planar IGBTs

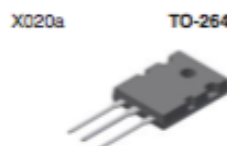
XPT = Xtreme light Punch Through, short-circuit rated IGBTs



IXX...
IXY...

IXX...D1/H1
IXY...D1/H1

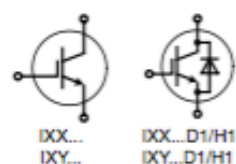
Part Number	V _{CE(s)}	I _{CS} T _C = 25°C	I _{C110} T _C = 110°C	V _{CE(sat)} T _C = 25°C	t _r typ. T _J = 150°C	E _{sw} typ. T _J = 150°C	R _{th(j-c)}	Diode	I _{FM} Diode T _C = 110°C	R _{th(j-c)} max. Diode	P _c	Fig. No.	Package style
A3 Class (up to 5kHz switching)													
IXYN 100N65A3	650	170	110	1.8	160	2.40	0.25				600	X027a	X005a TO-220AB
B3 Class (10-30 kHz switching)													
IXYQ 30N65B3D1	650	70	30	2.1	93	1.00	0.55	•	50	0.60	270	X017a	
IXYH 30N65B3D1		70	30	2.1	93	1.00	0.55	•	50	0.60	270	X014a	
IXYH 40N65B3		86	40	2.0	174	1.15	0.50				300	X014a	
IXYQ 40N65B3D1		86	40	2.0	174	1.15	0.50	•	50	0.60	300	X017a	
IXYH 40N65B3D1		86	40	2.0	174	1.15	0.50	•	50	0.60	300	X014a	
IXYH 100N65B3		225	100	1.85	160	2.16	0.18				830	X014a	
IXYK 100N65B3D1	225	100	1.85	160	2.16	0.18	•	67	0.36	830	X020a	X007a TO-220ABFP	
IXYX 100N65B3D1	225	100	1.85	160	2.16	0.18	•	67	0.36	830	X015a		
C3 Class (20-60 kHz switching)													
IXYP 10N65C3D1M	650	15	7	2.6	38	0.15	2.83	•	13	4.0	53	X007a	
IXYP 20N65C3D1M		18	9	2.5	36	0.40	3.00	•	13	4.0	50	X007a	
IXYP 15N65C3D1M		18	9	2.5	42	0.24	2.63	•	13	4.0	57	X007a	
IXYP 10N65C3	30	10	2.5	38	0.15	0.94				160	X005a	X011b TO-263AB	
IXYP 10N65C3D1	30	10	2.5	38	0.15	0.94	•	23	1.85	160	X005a		
IXYP 15N65C3	38	15	2.5	42	0.24	0.75				200	X005a		
IXYP 15N65C3D1	38	23	2.5	42	0.24	0.75	•	23	1.85	200	X005a		
IXYA 20N65C3	50	20	2.5	36	0.40	0.65				230	X011b		
IXYH 20N65C3	50	20	2.5	36	0.40	0.65				230	X014a	X014a TO-247AD	
IXYP 20N65C3D1	50	20	2.5	36	0.40	0.65	•	23	1.85	200	X005a		
IXYH 30N65C3H1	60	30	2.7	30	0.41	0.55	•	29	0.80	270	X014a		
IXYH 30N65C3	60	30	2.7	30	0.41	0.55				270	X014a		
IXYT 30N65C3H1HV	60	30	2.7	30	0.41	0.55	•	29	0.80	270	X019a	X014a TO-247AD	
IXYP 30N65C3	60	30	2.7	30	0.41	0.55				270	X005a		
IXYQ 40N65C3D1	80	40	2.35	30	0.53	0.50	•	50	0.60	300	X017a		
IXYH 40N65C3	80	40	2.35	30	0.53	0.50				300	X014a		
IXYH 40N65C3H1	80	40	2.35	80	0.46	0.50	•	40	0.60	300	X014a	X014a TO-247AD	
IXYH 40N65C3D1	80	40	2.35	30	0.53	0.50	•	50	0.60	300	X014a		
IXYH 50N65C3H1	130	50	2.1	42	0.56	0.25	•	40	0.60	600	X014a	X015a PLUS247	
IXYP 50N65C3	132	50	2.1	32	0.70	0.25				600	X005a		
IXYH 50N65C3D1	132	50	2.1	32	0.70	0.25	•	50	0.60	600	X014a		
IXYH 50N65C3	132	50	2.1	32	0.70	0.25				600	X014a		
IXYA 50N65C3	132	50	2.1	32	0.70	0.25				600	X011b	X017a TO-3P	
IXYN 75N65C3D1	140	67	2.3	64	1.30	0.28	•	46	0.53	535	X027a		
IXYN 100N65C3H1	160	90	2.3	66	1.15	0.25	•	50	0.42	600	X027a		
IXYH 75N65C3H1	175	75	2.3	58	1.30	0.20	•	62	0.45	750	X014a		
IXYH 75N65C3	175	75	2.3	64	1.30	0.20				750	X014a	X017a TO-3P	
IXYH 75N65C3D1	175	75	2.3	64	1.30	0.20	•	62	0.45	750	X014a		
IXYX 100N65C3D1	200	100	2.3	66	1.15	0.18	•	67	0.36	830	X015a		
IXYH 100N65C3	200	100	2.3	66	1.15	0.18				830	X014a		
IXYK 100N65C3D1	200	100	2.3	66	1.15	0.18	•	67	0.36	830	X020a		

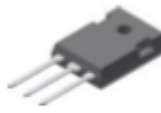



Discrete XPT™

650V XPT™ Trench IGBTs

XPT = Xtreme light Punch Through, short-circuit rated IGBTs



Part Number	V _{CE(s)}	I _{CS} T _C = 25°C	I _{CH10} T _C = 110°C	V _{CE(sat)} T _C = 25°C	t _n typ. T _J = 150°C	E _{on} typ. T _J = 150°C	R _{th(jc)}	Diode	I _{F110} Diode T _C = 110°C	R _{th(jc)} max. Diode	P _C	Fig. No.	Package style
> New	V	A	A	V	ns	mJ	K/W		A	K/W	W		Outline drawings on pages O-31...O-52
B4 Class (10-30 kHz switching)													
IXXH 30N65B4	650	65	30	2.0	100	0.6	0.65				230	X014a	 X014a TO-247AD
IXXH 60N65B4H1		116	60	2.2	94	1.34	0.33	•	40	0.60	455	X014a	
IXXH 60N65B4		116	60	2.2	94	1.34	0.33				455	X014a	
IXXH 40N65B4		120	40	2.0	73	0.78	0.33				455	X014a	
> IXXH 40N65B4H1		120	40	2.0	73	0.78	0.33	•	40	0.60	455	X014a	
IXXR 110N65B4H1		150	70	2.2	105	1.40	0.33	•	48	0.70	455	X016a	
IXXH 80N65B4		160	80	2.0	65	1.65	0.24				625	X014a	
IXXH 80N65B4H1		160	80	2.0	65	1.65	0.24	•	62	0.45	625	X014a	
IXXN 110N65B4H1		215	110	2.1	105	1.40	0.20	•	70	0.42	750	X027a	
IXXK 110N65B4H1		240	110	2.1	105	1.40	0.17	•	78	0.38	880	X020a	
IXXX 110N65B4H1		240	110	2.1	105	1.40	0.17	•	78	0.38	880	X015a	
IXXK 160N65B4		310	160	1.8	160	2.36	0.16				940	X020a	
IXXX 160N65B4		310	160	1.8	160	2.36	0.16				940	X015a	
IXXK 200N65B4		480	200	1.7	110	2.54	0.092				1630	X020a	
IXXX 200N65B4		480	200	1.7	110	2.54	0.092				1630	X015a	
C4 Class (20-60 kHz switching)													
IXXH 60N65C4	650	118	60	2.4	47	0.93	0.33				455	X014a	 X015a PLUS247
IXXN 110N65C4H1		210	110	2.35	43	0.77	0.20	•	70	0.42	750	X027a	
IXXH 110N65C4		234	110	2.35	43	0.77	0.17				880	X014a	
IXXK 160N65C4		290	160	2.1	57	1.30	0.16				940	X020a	
IXXX 160N65C4		290	160	2.1	57	1.30	0.16				940	X015a	

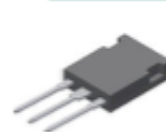
X027a **SOT-227B miniBLOC**



X020a **TO-264**






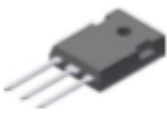

X016a **ISOPLUS247™**



Discrete XPT™

900V XPT™ IGBT

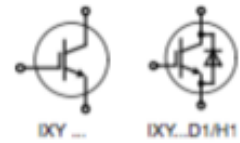
XPT = Xtreme light Punch Through

Part Number	V _{DES}	I _{C25} T _C = 25°C	I _{C110} T _C = 110°C (90°C)	V _{CE(SAT)} T _C = 25°C	t _{tr} typ. T _J = 125°C (150°C)	E _{off} typ. T _J = 125°C (150°C)	R _{thJC}	Diode	I _{F110} Diode T _C = 110°C	R _{thJC} max. Diode	P _C	Fig. No.	Package style
> New	V	A	A	V	ns	mJ	K/W		A	K/W	W		Outline drawings on pages O-31...O-52
900V GenX3™ XPT™ IGBTs													
> IXYA 8N90C3D1	900	20	8	2.5	163	0.22	1.2	• 12	2.50	125	X011b	X004	TO-252AA
> IXYP 8N90C3		20	8	2.5	163	0.22	1.2			125	X007a		
> IXYP 8N90C3D1		20	8	2.5	163	0.22	1.2	• 12	2.50	125	X007a		
> IXYY 8N90C3		20	8	2.5	163	0.22	1.2			125	X004		
> IXYH 24N90C3		44	24	2.7	130	0.55	0.62			240	X014a		
> IXYH 24N90C3D1		44	(24)	2.7	130	0.55	0.62	• 15	1.60	200	X014a		
> IXYH 40N90C3D1		90	40	2.5	150	1.2	0.25	• 25	0.90	500	X014a		
> IXYH 40N90C3		105	40	2.5	150	1.2	0.25			600	X014a		
> IXYN 80N90C3H1		115	(70)	2.7	(98)	(2.5)	0.25	• 42	0.42	500	X027a	X007a	TO-220ABFP
> IXYH 60N90C3		140	60	2.7	(165)	(2.15)	0.2			750	X014a		
> IXYH 80N90C3		165	80	2.7	(98)	(2.5)	0.18			830	X014a		
> IXYT 80N90C3		165	80	2.7	(98)	(2.5)	0.18			830	X019		
> IXYK 140N90C3		310	140	2.7	(125)	(5)	0.092			1630	X020a		
> IXYX 140N90C3		310	140	2.7	(125)	(5)	0.092			1630	X015a		
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>X027a</p> <p>SOT-227B miniBLOC</p>  </div> <div style="text-align: center;"> <p>X014a</p> <p>TO-247AD</p>  </div> <div style="text-align: center;"> <p>X011b</p> <p>TO-263AB</p>  </div> </div>													

Discrete XPT™

1200V XPT™ IGBT


XPT = Xtreme light Punch Through




Part Number	V _{CE(s)}	I _{C25} T _C = 25°C	I _{C110} T _C = 110°C	V _{CE(sat)} T _C = 25°C	t _{n typ} T _J = 125°C	E _{off typ} T _J = 125°C	R _{th(j-c)}	I _{F110} Diode T _C = 110°C	R _{th(j-c)} max. Diode	P _C	Fig. No.	Package style
> New	V	A	A	V	ns	mJ	K/W	A	K/W	W		Outline drawings on pages O-31...O-52
1200V GenX3™ XPT™ IGBTs												
B3 Class (5-30 kHz switching)												
IXYH 40N120B3D1	1200	86	40	2.9	206	2.05	0.26	• 25	0.90	480	X014a	X005a TO-220AB
IXYH 40N120B3		96	40	2.9	206	2.05	0.26			577	X014a	
IXYN 100N120B3H1		165	76	2.6	° 260	10.1 °	0.18	• 42	0.42	690	X027a	
IXYK 100N120B3		225	100	2.6	° 260	10.1 °	0.13			1150	X020a	
IXYX 100N120B3		225	100	2.6	° 260	10.1 °	0.13			1150	X015a	
C3 Class (20-50 kHz switching)												
IXYJ 20N120C3D1	1200	21	9	3.4	° 105	0.7 °	1.19	• 15	1.25	105	X016c	X011c TO-263ABHV
> IXYJ 30N120C3D1		32	14	3.3	° 140	1.6 °	0.89	• 15	1.25	140	X016c	
IXYH 20N120C3D1		36	17	3.4	° 105	0.7 °	0.54	• 23	0.90	230	X014a	
IXYT 20N120C3D1HV		36	17	3.4	° 105	0.7 °	0.54	• 23	0.90	230	X019a	
> IXYA 20N120C3HV		40	20	3.4	° 105	0.7 °	0.54			278	X011c	
IXYH 20N120C3		40	20	3.4	° 105	0.7 °	0.54			278	X014a	
IXYP 20N120C3		40	20	3.4	° 105	0.7 °	0.54			278	X005a	X014a TO-247AD
IXYR 50N120C3D1		56	* 32	4.0	° 60	1.4 °	0.43	• 25	0.90	290	X016a	
IXYH 40N120C3D1		64	* 40	4.0	38	0.7	0.26	• 25	0.90	480	X014a	
IXYH 30N120C3		66	30	4.0	88	0.9	0.3			416	X014a	
IXYH 30N120C3D1		66	30	4.0	88	0.9	0.3	• 25	0.90	416	X014a	
IXYP 30N120C3		66	30	4.0	88	0.9	0.3			416	X005a	
IXYH 40N120C3		70	40	4.0	38	0.7	0.26			577	X014a	
IXYH 50N120C3D1		90	**50	4.0	° 60	1.4 °	0.2	• 25	0.90	625	X014a	X015a PLUS247
IXYH 50N120C3		100	50	3.5	60	1.4	0.2			750	X014a	
IXYR 100N120C3		104	58	3.5	125	3.55	0.31			484	X016a	
IXYN 82N120C3		105	46	3.2	95	3.7	0.25			500	X027a	
IXYN 82N120C3H1		105	46	3.2	95	3.7	0.25	• 42	0.42	500	X027a	
IXYN 100N120C3H1		134	62	3.5	125	3.55	0.18	• 42	0.42	690	X027a	
IXYN1 00N120C3		152	86	3.5	125	3.55	0.18			830	X027a	
IXYB 82N120C3H1		160	82	3.2	95	3.7	0.12	• 42	0.35	1040	X021a	X016a ISOPLUS247™
IXYH 82N120C3		160	82	3.2	95	3.7	0.12				X014a	
IXYK 100N120C3		188	100	3.5	125	3.55	0.13				X020a	
IXYX 100N120C3		188	100	3.5	125	3.55	0.13				X015a	
IXYK 120N120C3		220	120	3.5	° 120	5.3 °	0.1			1500	X020a	
IXYX 120N120C3		220	120	3.5	° 120	5.3 °	0.1			1500	X015a	
> IXYK 120N120C3		240	120	3.2	° 120	7.2 °	0.1			1500	X020a	
> IXYX 120N120C3		240	120	3.2	° 120	7.2 °	0.1			1500	X015a	
> IXYN 120N120C3		240	120	3.2	° 120	7.2 °	0.125			1200	X027a	X016c ISO247™

* T_C = 90°C ° T_J = 150°C
 ** T_C = 100°C


X027a SOT-227B miniBLOC




X021a PLUS264



X020a TO-264



X019a TO-268AAHV



Discrete XPT™ / NPT IGBT

XPT IGBT XPT = Xtreme light Punch Through



Type	V _{CEs}	I _{CES} IGBT	I _{CS0} IGBT	V _{CEsat} typ IGBT	E _{off} IGBT	R _{thJC} IGBT	Diode	I _{FS} Diode	Fig. No.	Package style
> New ○ Not for new design ◇ under development	V	A T _C = 25°C	A T _C = 90°C	V T _J = 25°C	mJ T _J = 125°C	K/W		A T _C = 90°C		Outline drawings on pages O-31...O-52
650 V XPT IGBT										
> IXA 220I650NA	650	335	220	*	*	*		-	X027a	X004 TO-252AA
1200 V XPT IGBT										
> IXA 4I1200UC	1200	9	(100°) 5	1.8	0.30	2.70		-	X004	X004a TO-220AB
IXA 4IF1200UC		9	5	1.8	0.25	2.70	•	6	X004	
◇ IXA 4IF1200PZ		9	5	1.8	0.25	2.70	•	6	X011c	X005a TO-263ABHV
IXA 4IF1200TC		9	5	1.8	0.25	2.70	•	6	X019	
IXA 12IF1200HB		20	13	1.8	1.10	1.50	•	14	X014a	X011c TO-247AD
IXA 12IF1200PB		20	13	1.8	1.10	1.50	•	14	X005a	
IXA 12IF1200TC		20	13	1.8	1.10	1.50	•	14	X019	X014a TO-247AD
IXA 17IF1200HJ		28	18	1.8	1.70	1.26	•	19	X016a	
IXA 20IF1200HB		38	22	1.8	1.70	0.76	•	24	X014a	X016a ISOPLUS247™
IXA 20I1200PB		38	22	1.8	1.70	0.76		-	X005a	
◇ IXA 20I1200PZ		38	22	1.8	1.70	0.76		-	X011c	X019 TO-268AA
IXA 27IF1200HJ		43	27	1.8	3.00	0.84	•	25	X016a	
IXA 33IF1200HB		58	34	1.8	3.00	0.50	•	33	X014a	X027a SOT-227B miniBLOC
IXA 37IF1200HJ		58	37	1.8	4.10	0.64	•	25	X016a	
IXA 45IF1200HB		78	45	1.8	4.10	0.38	•	33	X014a	X027a SOT-227B miniBLOC
IXA 55I1200HJ		84	54	1.8	5.50	0.43		-	X016a	
IXA 60IF1200NA		88	56	1.8	5.50	0.43	•	51	X027a	X027a SOT-227B miniBLOC
IXA 70I1200NA		100	65	1.8	5.50	0.35		-	X027a	
IXA 70R1200NA *		100	65	1.8	5.50	0.35	•	55	X027a	
1200 V Fast Trench IGBT										
> ITF 38IF1200HJ	1200	52	38 (80°C)	2.05	2 (175°C)	0.68	•	42	X016a	
* boost configuration										
NPT IGBT NPT = Non Punch Through										
600 V NPT IGBT										
○ IXDP 20N60B	600	32	20	2.2	0.4	0.90		-	X005a	X019 TO-268AA
○ IXDP 20N60BD1		32	20	2.2	0.4	0.90	•	14	X005a	
○ IXDP 35N60B		60	35	2.1	0.8	0.50		-	X005a	X019 TO-268AA
○ IXDH 35N60B		60	35	2.1	0.8	0.50		-	X014a	
○ IXDH 35N60BD1		60	35	2.1	0.8	0.50	•	21	X014a	X027a SOT-227B miniBLOC
1200 V NPT IGBT										
○ IXDH 20N120		38	25	2.4	2.4	0.63		-	X014a	X027a SOT-227B miniBLOC
○ IXDH 20N120D1		38	25	2.4	2.4	0.63	•	20	X014a	
○ IXDH 30N120		60	38	2.4	3.4	0.42		-	X014a	X027a SOT-227B miniBLOC
○ IXDH 30N120D1		60	38	2.4	3.4	0.42	•	35	X014a	
○ IXDR 30N120D1		50	30	2.4	3.4	0.60	•	27	X016a	X027a SOT-227B miniBLOC
IXDN 55N120D1		100	62	2.3	6.2	0.28	•	60	X027a	
IXDN 75N120		150	95	2.2	10.5	0.19		-	X027a	

G-Series PT IGBTs

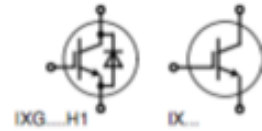
600 and 1200 V IGBTs







Part Number	V _{CEES} V	I _{CS} T _C = 25°C A	I _{CT12} T _C = 110°C A	V _{CE(SAT)} max. T _J = 25°C V	t _{tr} T _J = 25°C ns	E _{off} typ. T _J = 125°C mJ	R _{th(j-c)} max. K/W	Diode	I _{F110} Diode T _C = 110°C A	R _{th(j-c)} max. Diode K/W	PC W	Fig. No.	Package style
> New A3 Class (up to 5kHz switching)													
IXGH 36N60A3D4	600	75	36	1.40	325	5.3	0.56	*	-	2.5	220	X014a	X005a TO-220AB
IXGH 48N60A3D1		75	48	1.35	224	5.6	0.42	*	-	0.9	300	X014a	
IXGH 72N60A3		75	72	1.35	250	6.5	0.23	-	-	-	540	X014a	
IXGK 72N60A3H1		75	72	1.35	250	6.5	0.23	*	-	0.3	540	X020a	
IXGR 72N60A3H1	75	72	1.35	250	6.5	0.62	*	-	0.8	200	X016a	X011b TO-263AB X014a TO-247AD X015a PLUS247 X016a ISOPLUS247 	
IXGT 72N60A3	75	72	1.35	250	6.5	0.23	-	-	-	540	X019		
IXGT 72N60B3	75	72	1.8	90	2.2	0.23	-	-	-	540	X019		
IXGX 72N60A3H1	75	72	1.35	250	6.5	0.23	*	-	0.3	540	X015a		
IXGH 56N60A3	150	56	1.35	315	6.75	0.375	-	-	-	330	X014a		
IXGN 72N60A3	160	68	1.35	250	6.5	0.35	-	-	-	360	X027a		
IXGK 120N60A3	200	120	1.35	260	10.4	0.16	-	-	-	780	X020a		
IXGN 120N60A3	200	120	1.35	260	10.4	0.21	-	-	-	595	X027a		
IXGN 120N60A3D1	200	120	1.35	260	10.4	0.21	*	-	0.85	595	X027a		
IXGX 120N60A3	200	120	1.35	260	10.4	0.16	-	-	-	780	X015a		
IXGK 320N60A3	320	210	1.25	740	na	0.125	-	-	-	1000	X020a		
IXGN 320N60A3	320	170	1.25	740	na	0.17	-	-	-	735	X027a		
IXGX 320N60A3	320	210	1.25	740	na	0.125	-	-	-	1000	X015a		
IXGN 400N60A3	400	190	1.25	270	na	0.15	-	-	-	830	X027a		
IXGA 36N60A3	na	36	1.40	325	5.3	0.56	-	-	-	220	X011b		
IXGA 48N60A3	na	48	1.35	224	5.6	0.42	-	-	-	300	X011b		
IXGH 36N60A3	na	36	1.40	325	5.3	0.56	-	-	-	220	X014a		
IXGH 48N60A3	na	48	1.35	2.24	5.6	0.42	-	-	-	300	X014a		
IXGH 64N60A3	na	64	1.35	222	6.0	0.27	-	-	-	460	X014a		
IXGP 36N60A3	na	36	1.40	325	5.3	0.56	-	-	-	220	X005a		
IXGP 48N60A3	na	48	1.35	224	5.6	0.42	-	-	-	300	X005a		
IXGR 64N60A3	na	47	1.35	222	6.03	0.62	-	-	-	200	X016a		
IXGR 72N60A3	na	52	1.35	250	6.5	0.62	-	-	-	200	X016a		
IXGT 64N60A3	na	64	1.35	222	6.0	0.27	-	-	-	460	X019		
IXGH 32N100A3	1000	75	32	2.20	540	13.0	0.42	-	-	-	300	X014a	X019 TO-268AA
IXGT 32N100A3		75	32	2.20	540	13.0	0.42	-	-	-	300	X019	
IXGA 12N120A3	1200	22	na	3.00	1035	na	1.25	-	-	-	100	X011b	X020a TO-264 X027a SOT-227B miniBLOC
IXGH 12N120A3		22	na	3.00	1035	na	1.25	-	-	-	100	X014a	
IXGP 12N120A3		22	na	3.00	1035	na	1.25	-	-	-	100	X005a	
IXGA 20N120B3		36	na	3.10	155	1.63	0.69	-	-	-	180	X011b	
IXGP 20N120B3		36	na	3.10	155	1.63	0.69	-	-	-	180	X005a	
IXGA 20N120A3		40	20	2.50	715	10.1	0.69	-	-	-	180	X011b	
IXGH 20N120A3		40	20	2.50	715	10.1	0.69	-	-	-	180	X014a	
IXGP 20N120A3		40	20	2.50	715	10.1	0.69	-	-	-	180	X005a	
IXGR 55N120A3H1		70	30	2.35	282	29.0	0.62	*	-	0.42	200	X016a	
IXGH 32N120A3		75	na	2.35	1240	na	0.42	-	-	-	300	X014a	
IXGT 32N120A3	75	32	2.35	1240	na	0.42	-	-	-	300	X019		
IXGK 55N120A3H1	125	55	2.30	282	29.0	0.27	*	-	0.42	460	X020a		
IXGX 55N120A3H1	125	55	2.30	282	29.0	0.27	*	-	0.42	460	X015a		
IXGK 120N120A3	240	120	2.20	325	58.0	0.15	-	-	-	830	X020a		
IXGX 120N120A3	240	120	2.20	325	58.0	0.15	-	-	-	830	X015a		
IXGK 82N120A3	260	82	2.05	780	22.5	0.10	-	-	-	1250	X020a		
IXGX 82N120A3	260	82	2.05	780	22.5	0.10	-	-	-	1250	X015a		





High Voltage NPT IGBTs

1700 V Low On-State Voltage NPT IGBTs



Part Type	V _{ces} V	I _c T _c = 25°C A	I _c T _c = 90°C (110°C) A	V _{CE(sat)} T _c = 25°C V	E _{off} typ T _j = 125°C mJ	R _{th(jc)} K/W	Diode	Fig. No.	Package style Outline drawings on pages O-31...O-52
IXGH 6N170	1700	12	6	4.0	2	1.65		X014a	X014a TO-247AD 
IXGT 6N170		12	6	4.0	2	1.65		X019	
IXGH 10N170		20	10	4.0		1.10		X014a	
IXGT 10N170		20	10	4.0		1.10		X019	
IXGH 16N170		32	16	3.5	11.2	0.65		X014a	
IXGT 16N170		32	16	3.5	11.2	0.65		X019	
IXGR 32N170H1		38	20	3.5	13.6	0.65	•	X016a	X015a PLUS247 
IXGF 32N170		44	(19)	3.5	13.5	0.62		X024c	
IXGH 24N170		50	24	3.3	12	0.50		X014a	X016a ISOPLUS247™ 
IXGT 24N170		50	24	3.3	12	0.50		X019	
IXGH 32N170		75	32	3.3	14	0.35		X014a	X019
IXGT 32N170		75	32	3.3	14	0.35		X019	
IXGX 32N170H1		75	32	3.3	22	0.35	•	X015a	X019 TO-268AA 
IXGN 100N170		160	95	3.0		0.17		X027a	
IXGX 100N170		170	100	3.0		0.15		X015a	
IXGK 100N170		170	100	3.0		0.15		X020a	

1700 V NPT IGBTs

Part Type	V _{ces} V	I _c T _c = 25°C A	I _c T _c = 90°C (110°C) A	V _{CE(sat)} T _c = 25°C V	t _n typ T _j = 25°C ns	E _{off} typ T _j = 125°C mJ	R _{th(jc)} K/W	Diode	I _{FSO} Diode T _c = 90°C A	R _{th(jc)} Diode K/W	Fig. No.	
> New IXGR 6N170A	1700	5.5	(2.5)	7	32	0.25	2.5				X016a	X019 TO-268AA 
IXGH 6N170A		6	3	7	32	0.26	1.65				X014a	
IXGT 6N170A		6	3	7	32	0.26	1.65				X019	X020a TO-264 
IXGH 10N170A		10	5	6	35	0.6	0.89				X014a	
IXGT 10N170A		10	5	6	35	0.6	0.89				X019	
IXGH 16N170A		16	11	5	70	2.0	0.65				X014a	X024c ISOPLUS i4-PAC™ 
IXGH 16N170AH1		16	11	5	70	2.0	0.65	•	17	0.90	X014a	
IXGR 16N170AH1		16	8	5	40	1.1	1.04	•	15	1.50	X016a	X019
IXGT 16N170A		16	11	5	70	2.0	0.65				X019	
IXGT 16N170AH1		16	11	5	70	2.0	0.65	•	17	0.90	X019	X027a SOT-227B miniBLOC 
IXGH 24N170A		24	16	6	40	1.47	0.5				X014a	
IXGH 24N170AH1		24	16	6	40	1.47	0.5	•	16	0.90	X014a	
IXGT 24N170A		24	16	6	40	1.47	0.5				X019	
IXGT 24N170AH1		24	16	6	40	1.47	0.5	•	16	0.90	X019	
IXGR 32N170AH1		26	14	5.2	50	2.4	0.65	•	14	1.50	X016a	
IXGH 32N170A		32	21	5	50	2.4	0.35				X014a	
IXGT 32N170A		32	21	5	50	2.4	0.35				X019	
IXGX 32N170AH1		32	21	5	50	1.7	0.35	•	18	0.35	X015a	

Very High Voltage NPT IGBTs

2.5 kV - 4 kV NPT IGBT











Part Type	V _{CE(s)}	I _{CS} T _C = 25°C	I _{C110} T _C = 110°C (90°C)	V _{CE(sat)} T _C = 25°C	t _n typ T _J = 25°C	E _{off} typ T _J = 125°C	R _{th(jc)} IGBT	P _c	Fig. No.	Package style
> New	V	A	A	V	ns	mJ	K/W	W		Outline drawings on pages O-31...O-52
IXGF 20N250	2500	23	(14)	3.1	930	na	1.25	100	X024c	
IXGA 20N250HV		30	12	3.1	930	na	0.83	150	X011c	X011c TO-263ABHV
IXGF 25N250		30	15	2.9	200	na	1.10	114	X024c	
IXLF 19N250A		32	19	3.9	250	30	0.50	250	X024c	
IXGH 25N250		60	25	2.9	200	na	0.50	250	X014a	
IXGT 25N250		60	25	2.9	200	na	0.50	250	X019	
IXGT 25N250HV		60	25	2.9	200	na	0.50	250	X019a	
IXGL 75N250		110	(65)	2.9	455	na	0.29	430	X022e	X014a TO-247AD
IXGK 75N250		170	75	2.7	455	na	0.16	780	X020a	
IXGX 75N250		170	75	2.7	455	na	0.16	780	X015a	
IXGH 10N300	3000	18	(10)	3.5	530	na	1.25	100	X014a	
IXGF 20N300		22	(14)	3.2	210	na	1.25	100	X024c	
IXGF 25N300		27	(16)	3.0	500	na	1.10	114	X024c	
IXGF 36N300		36	18	2.7	540	na	0.78	160	X024c	X014c TO-247HV
IXEL 40N400	4000	90	40	3.5	425	205	0.26	380	X022e	
> IXA 40I4000KN		80	40	2.7	200	125	0.28	450	X022e	
> IXYF 30N450	4500	23	17	3.9	1220	na	0.54	230	X024c	
> IXYT 30N450HV		60	30	3.9	1220	na	0.29	430	X019a	
> IXYF 40N450		60	32	3.9	1120	na	0.43	290	X024c	
> IXYH 30N450HV		60	30	3.9	1220	na	0.29	430	X014c	
> IXYL 60N450		90	38	3.3	1360	na	0.3	417	X022e	X015a PLUS247
> IXYX 40N450HV		95	40	3.9	1120	na	0.19	660	X015c	

X020a	TO-264	X019a	TO-268AAHV	X016a	ISOPLUS247™
X024c	ISOPLUS i4-PAC™	X022e	ISOPLUS264™	X019	TO-268AA

BiMOSFETs (Monolithic Bipolar MOS Transistors)



1.6 kV - 2.5 kV

Type	V _{CES}	I _{CES} T _C = 25°C	I _{CSE} T _C = 90°C (110°C)	V _{CE(SAT)} typ (max) T _C = 25°C (110°C)	Q _G typ	t _r (t _f) typ T _C = 125°C	R _{thJC} max.	Fig. No.	Package style	
➤ New	V	A	A	V	nC	ns	K/W		Outline drawings on pages O-31...O-52	
IXBH 5N160G	1600	5.7	3.5	4.9	26	(70)	1.85	X014a	X005a TO-220AB 	
IXBP 5N160G		5.7	3.5	4.9	26	(70)	1.85	X005a		
IXBF 9N160G		7	4	4.9	34	(70)	1.75	X024c		
IXBH 9N160G		9	5	4.9	34	(70)	1.25	X014a		
IXBF 40N160		28	16	6.2	130	(40)	0.50	X024c		
IXBH 40N160		33	20	6.2	130	(40)	0.35	X014a		
IXBH 6N170	1700	12	6	2.84	17	600	1.65	X014a	X011c TO-263ABHV 	
IXBT 6N170		12	6	2.84	17	600	1.65	X019		
➤ IXBA 16N170AHV		16	10	(6)	65	(150)	0.83	X011c		
IXBH 16N170A		16	10	(6)	65	(150)	0.83	X014a	X014a TO-247AD 	
IXBT 16N170A		16	10	(6)	65	(150)	0.83	X019		
➤ IXBT 16N170AHV		16	10	(6)	65	(150)	0.83	X019a		
IXBH 10N170		20	10	3.4	30	(150)	0.89	X014a		
IXBT 10N170		20	10	3.4	30	(150)	0.89	X019	X015a PLUS247 	
IXBN 42N170A		38	21	5.2	188	(82)	0.40	X027a		
IXBH 16N170		40	16	(3.3)	72	705	0.50	X014a		
IXBT 16N170	40	16	(3.3)	72	705	0.50	X019			
IXBH 42N170A	42	21	5.2	188	(82)	0.35	X014a			
IXBT 42N170A	42	21	5.2	188	(82)	0.35	X019			
IXBR 42N170		57	32	(2.9)	188	740	0.62	X016a	X016a ISOPLUS247™ 	
IXBH 24N170	60	24	(2.5)	140	960	0.50	X014a			
IXBT 24N170	60	24	(2.5)	140	960	0.50	X019			
IXBN 75N170A	75	42	4.95	358	(175)	0.20	X027a			
IXBH 42N170	80	42	(2.8)	188	740	0.35	X014a			
IXBT 42N170	80	42	(2.8)	188	740	0.35	X019			
IXBK 75N170A	110	65	4.95	358	(175)	0.12	X020a			
IXBX 75N170A	110	65	4.95	358	(175)	0.12	X015			
IXBN 75N170	145	75	2.6	350	580	0.20	X027a	X019 TO-268AA 		
IXBK 75N170	200	(75)	2.6	350	580	0.12	X020a			
IXBX 75N170	200	(75)	2.6	350	580	0.12	X015a	X019a TO-268AAHV 		
IXCH 36N250	2500	73	(36)	2.6	177	900	0.21		X014a	
IXCK 36N250		73	(36)	2.6	177	900	0.21		X020a	
IXBL 64N250		116	(46)	2.5	400	175	0.25		X022e	X027a SOT-227B miniBLOC 
IXBK 64N250		156	(64)	2.5	400	175	0.17		X020a	
IXBX 64N250		156	(64)	2.5	400	175	0.17		X015a	

X027a SOT-227B miniBLOC



X024c ISOPLUS 14-PAC™



X022e ISOPLUS264™









X020a TO-264



BiMOSFETs (Monolithic Bipolar MOS Transistors)



3 kV - 3.6 kV

Type	V _{CES}	I _{CES}	I _{CSE}	V _{CES(sat)} typ (max)	Q _g typ	t _r typ	R _{th(jc)} max.	Fig. No.	Package style
> New	V	A	A	T _C = 25°C T _C = 90°C (110°C) T _C = 25°C (110°C) V	nC	ns	K/W		Outline drawings on pages O-31...O-52
> IXBF 14N300		28	14	2.2	62	1730	1.04	X024c	X011c TO-263ABHV 
> IXBF 10N300C		29	(10)	4.6	208	165 (t.)	0.52	X024c	
> IXBH 10N300		30	(10)	2.8	45	1030	0.69	X014a	
> IXBA 10N300HV		34	(10)	2.2	46	2010	0.69	X011c	
> IXBH 10N300HV		34	(10)	2.2	46	2010	0.69	X014c	
> IXBF 15N300C		37	(15)	4.7	267	150 (t.)	0.42	X024c	X014a TO-247AD 
> IXBF 22N300		38	22	2.2	110	1650	0.83	X024c	
> IXBA 14N300HV		38	(14)	2.2	62	1730	0.62	X011c	
> IXBH 14N300HV		38	(14)	2.2	62	1730	0.62	X014c	
IXBF 32N300		40	22	2.8	142	630	0.78	X024c	
> IXBF 28N300		50	28	2.3	110	3280	0.58	X024c	X014c TO-247HV 
> IXBL 20N300C		50	(20)	4.5	425	175 (t.)	0.30	X022e	
IXBF 42N300		60	(20)	2.5	200	490	0.52	X024c	
> IXBT 22N300HV		60	(22)	2.2	110	1650	0.43	X019a	
> IXBH 22N300HV		60	(22)	2.2	110	1650	0.43	X014c	
> IXBX 28N300HV		62	(28)	2.3	110	3280	0.36	X015c	X015a PLUS247 
IXBH 32N300		80	(32)	2.8	142	630	0.31	X014a	
IXBT 32N300		80	(32)	2.8	142	630	0.31	X019	
IXBF 55N300		86	(34)	2.7	335	260	0.35	X024c	
> IXBH 42N300HV		104	(42)	2.5	200	490	0.25	X014c	
IXBT 42N300HV		104	(42)	2.5	200	490	0.25	X019a	X019a TO-268AAHV 
IXBK 55N300		130	(55)	2.7	335	260	0.20	X020a	
IXBX 55N300		130	(55)	3.2	335	260	0.20	X015a	
> IXBF 20N360	3600	45	(18)	2.9	110	1100	0.54	X024c	
> IXBH 20N360HV		70	(20)	2.9	110	1100	0.29	X014c	
> IXBT 20N360HV		70	(20)	2.9	110	1100	0.29	X019a	X024c ISOPLUS I4-PAC™ 
> IXBF 50N360		70	(28)	2.4	210	1670	0.43	X024c	
> IXBL 60N360		92	(36)	2.8	450	1025	0.30	X022e	
> IXBX 50N360HV		125	(50)	2.4	210	1670	0.19	X015c	
									X019a TO-268AA 
									X015c PLUS247HV 
									X022e ISOPLUS264™ 