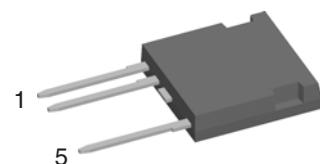
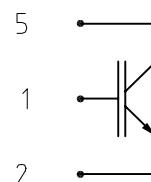


**High Voltage
BIMOSFET™
in High Voltage ISOPLUS i4-PAC™**

Monolithic Bipolar MOS Transistor

**$I_{C25} = 28\text{ A}$
 $V_{CES} = 1600\text{ V}$
 $V_{CE(sat)} = 6.2\text{ V}$
 $t_f = 40\text{ ns}$**



IGBT

Symbol	Conditions	Maximum Ratings		
V_{CES}	$T_{VJ} = 25^\circ\text{C}$ to 150°C	1600		V
V_{GES}		± 20		V
I_{C25}	$T_c = 25^\circ\text{C}$	28		A
I_{C90}	$T_c = 90^\circ\text{C}$	16		A
I_{CM}	$V_{GE} = 15/0\text{ V}$; $R_G = 22\text{ }\Omega$; $T_{VJ} = 125^\circ\text{C}$	40		A
V_{CEK}	RBSOA, Clamped inductive load; $L = 100\text{ }\mu\text{H}$	0.8 V_{CES}		
P_{tot}	$T_c = 25^\circ\text{C}$	250		W

Symbol	Conditions	Characteristic Values		
		($T_{VJ} = 25^\circ\text{C}$, unless otherwise specified)	min.	typ.
$V_{CE(sat)}$	$I_C = 20\text{ A}$; $V_{GE} = 15\text{ V}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		6.2	7.1
			6.9	V
$V_{GE(th)}$	$I_C = 2\text{ mA}$; $V_{GE} = V_{CE}$	4		8
I_{CES}	$V_{CE} = 0.8V_{CES}$; $V_{GE} = 0\text{ V}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		0.4	mA
			0.8	mA
I_{GES}	$V_{CE} = 0\text{ V}$; $V_{GE} = \pm 20\text{ V}$		500	nA
$t_{d(on)}$	Inductive load, $T_{VJ} = 125^\circ\text{C}$ $V_{CE} = 960\text{ V}$; $I_C = 25\text{ A}$ $V_{GE} = 15/0\text{ V}$; $R_G = 22\text{ }\Omega$	200		ns
t_r		60		ns
$t_{d(off)}$		300		ns
t_f		40		ns
C_{ies}	$V_{CE} = 25\text{ V}$; $V_{GE} = 0\text{ V}$; $f = 1\text{ MHz}$	3300		pF
Q_{Gon}	$V_{CE} = 600\text{ V}$; $V_{GE} = 15\text{ V}$; $I_C = 20\text{ A}$	130		nC
V_F	(reverse conduction); $I_F = 20\text{ A}$	2.5		V
R_{thJC}			0.5	K/W

Features

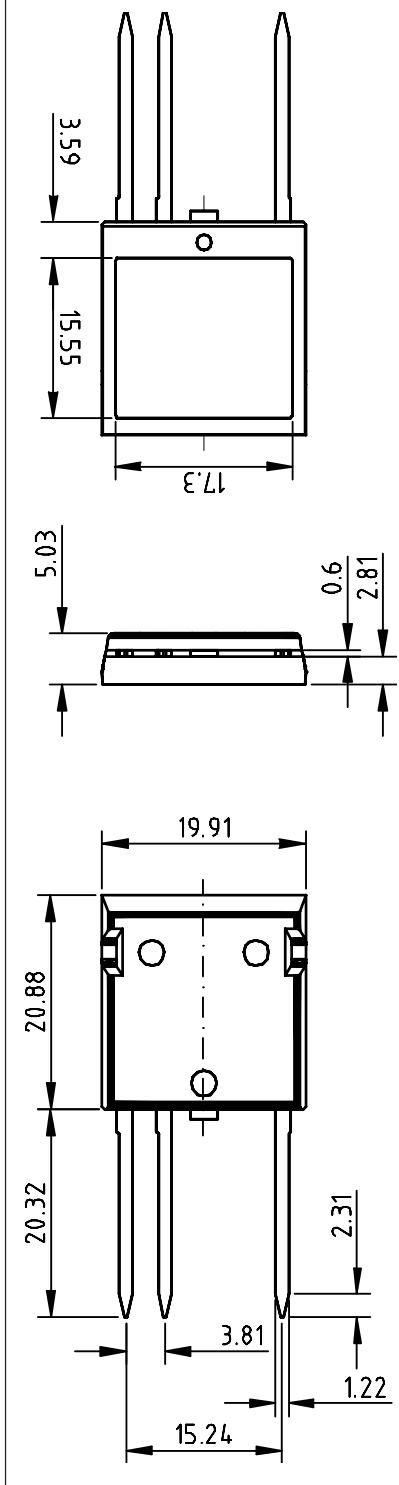
- High Voltage BIMOSFET™
 - substitute for high voltage MOSFETs with significantly lower voltage drop
 - fast switching for high frequency operation
 - reverse conduction capability
- ISOPLUS i4-PAC™ high voltage package
 - isolated back surface
 - enlarged creepage towards heatsink
 - enlarged creepage between high voltage pins
 - application friendly pinout
 - high reliability
 - industry standard outline

Applications

- switched mode power supplies
- DC-DC converters
- resonant converters
- lamp ballasts
- laser generators, x ray generators

Component

Symbol	Conditions	Maximum Ratings		
		-55...+150	+125	°C
T_{VJ}		-55...+150	+125	°C
T_{stg}		-55...+125		°C
V_{ISOL}	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~	
F_c	mounting force with clip	20...120	N	
Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
d_s, d_A	C pin - E pin	7		mm
d_s, d_A	pin - backside metal	5.5		mm
R_{thCH}	with heatsink compound	0.15		K/W
Weight		9		g

Dimensions in mm (1 mm = 0.0394")

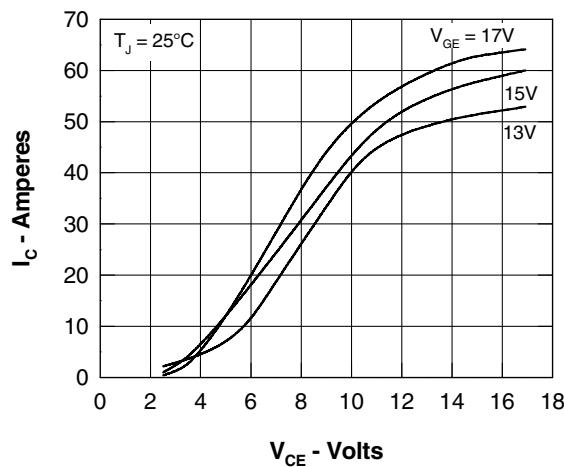


Fig. 1 Typ. Output Characteristics

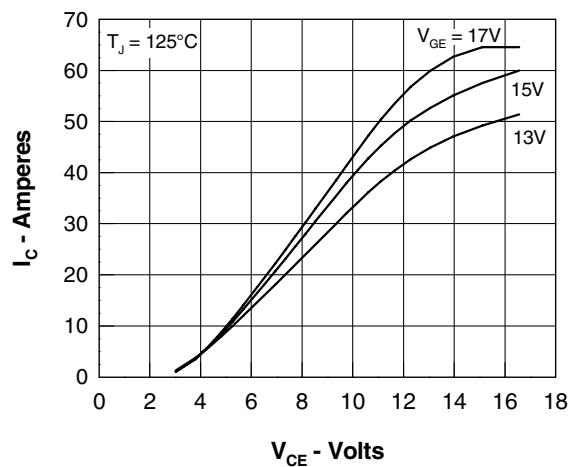


Fig. 2 Typ. Output Characteristics

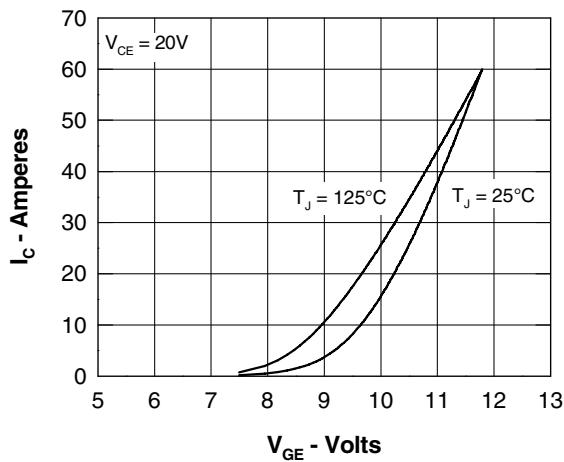


Fig. 3 Typ. Transfer Characteristics

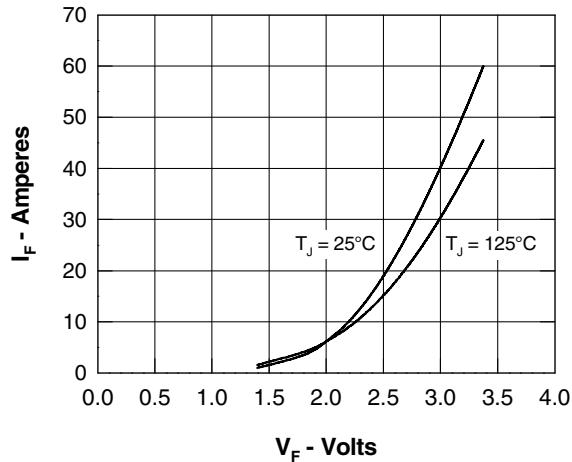


Fig. 4 Typ. Characteristics of Reverse Conduction

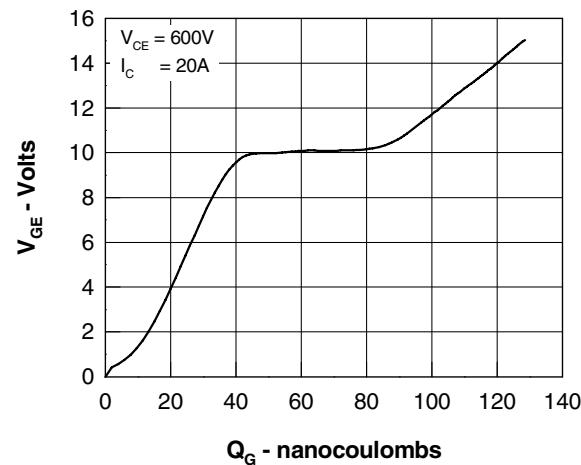


Fig. 5 Typ. Gate Charge characteristics

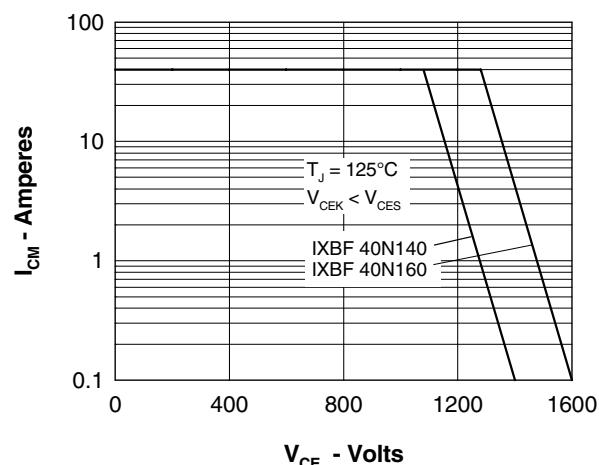


Fig. 6 Reverse Based Safe Operating Area RBSOA

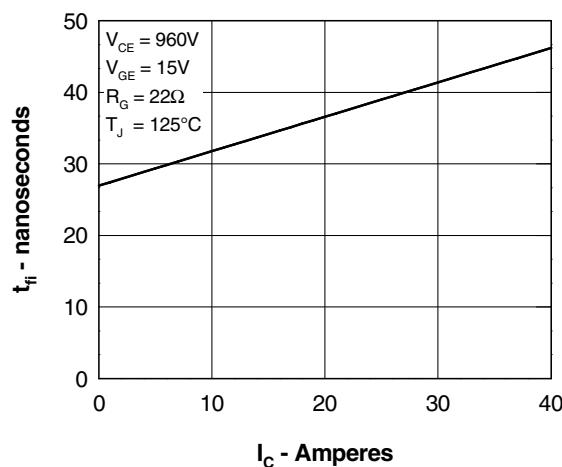


Fig. 7 Typ. Fall Time

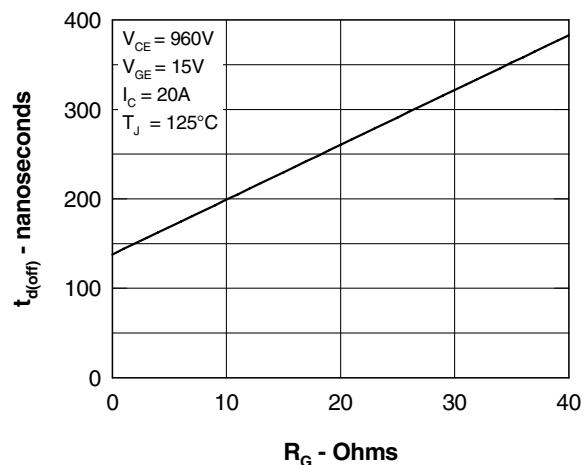


Fig. 8 Typ. Turn Off Delay Time

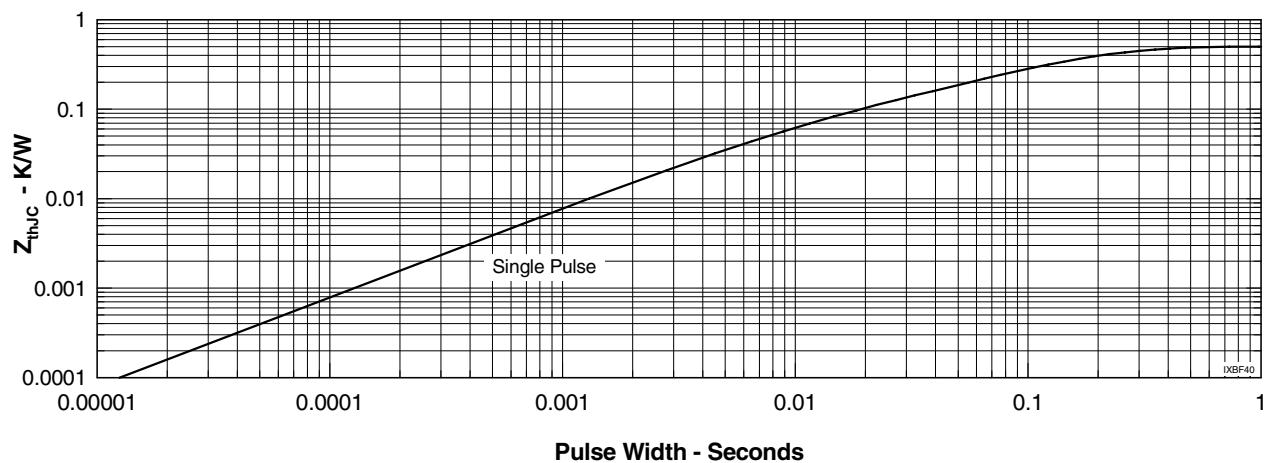


Fig. 9 Typ. Transient Thermal Impedance



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