



Features:

- High speed switching
- Voltage drive
- Low inductance module structure

Typical Applications:

- Inverter for Motor Drive
- AC and DC Servo Drive Amplifier
- Uninterruptible Power Supply
- Industrial machines

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V_{CES}	Collector-Emitter voltage	$T_j=25^\circ\text{C}$			1200	V
V_{GES}	Gate-Emitter voltage	$T_j=25^\circ\text{C}$			± 20	V
I_C	Collector current	Continuous@ $T_c=100^\circ\text{C}$			150	A
I_{CP}		$T_j=25^\circ\text{C}$, 1ms			300	A
P_C	Collector power dissipation	$T_j=25^\circ\text{C}$, 1 device			785	W
T_j	Junction temperature	/			150	$^\circ\text{C}$
T_{stg}	Storage temperature	/	-40		125	$^\circ\text{C}$
V_{iso}	Isolation between terminal and copper base	$T_j=25^\circ\text{C}$, AC: 1minute			3000	V
Screw torque	Mounting(M6)	/			6.0	N·m
	Terminals(M5)	/			4.0	N·m
I_{CES}	Zero gate voltage collector current	$T_j=25^\circ\text{C}$, $V_{CE}=1200\text{V}$, $V_{GE}=0\text{V}$			1.0	mA
I_{GES}	Gate-Emitter leakage current	$T_j=25^\circ\text{C}$, $V_{CE}=0\text{V}$, $V_{GE}=\pm 20\text{V}$			± 0.2	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	$T_j=25^\circ\text{C}$, $V_{CE}=20\text{V}$, $I_C=150\text{mA}$	4.5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	$T_j=25^\circ\text{C}$, $V_{GE}=15\text{V}$, $I_C=150\text{A}$		2.10	2.40	V
		$T_j=125^\circ\text{C}$, $V_{GE}=15\text{V}$, $I_C=150\text{A}$		2.35		V
C_{ies}	Input capacitance	$T_j=25^\circ\text{C}$, $V_{CE}=10\text{V}$, $V_{GE}=0\text{V}$, $f=1\text{MHz}$		12.6		nF
t_{on}	Turn-on time	$T_j=150^\circ\text{C}$, $V_{CC}=600\text{V}$, $I_C=150\text{A}$, $V_{GE}=\pm 15\text{V}$, $R_G=10\Omega$, Inductive load		180	500	ns
t_r				90	200	ns
t_{off}	Turn-off time			450	1000	ns
t_f				160	400	ns
V_F	Forward on voltage	$T_j=25^\circ\text{C}$, $I_F=150\text{A}$		1.9	2.3	V
		$T_j=125^\circ\text{C}$, $I_F=150\text{A}$		2.0		V
t_{rr}	Reverse recovery time	$T_j=25^\circ\text{C}$, $I_F=150\text{A}$		150	350	ns
$R_{th(j-c)}$	Thermal resistance(1 device)	IGBT			0.17	$^\circ\text{C/W}$
		FWD			0.31	$^\circ\text{C/W}$
$R_{th(c-f)}$	Contact thermal resistance (1 device)	With thermal compound		0.050		$^\circ\text{C/W}$
W_t	Weight				150	g
Outline	251H3					

Outline & Circuit Diagram

