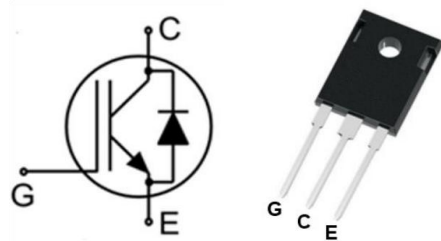


DESCRIPTION

- Low switching losses
- Very low collector-emitter saturation voltage V_{CEsat}
- Very soft, fast recovery antiparallel diode

APPLICATIONS

- UPS
- Welding
- String inverter

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	650	V
V_{GES}	Gate-Emitter Voltage	± 20	V
I_C	Collector Current-Continuous @ $T_C=25^\circ\text{C}$	110	A
I_C	Collector Current-Continuous @ $T_C=100^\circ\text{C}$	75	A
I_{CM}	Pulsed Collector Current @ $T_C=25^\circ\text{C}$	300	A
I_C	Diode Forward Current @ $T_C=25^\circ\text{C}$	110	A
I_C	Diode Forward Current @ $T_C=100^\circ\text{C}$	75	A
P_D	Power Dissipation @ $T_C=25^\circ\text{C}$	341	W
T_j	Operating Junction Temperature	-55~175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~175	$^\circ\text{C}$

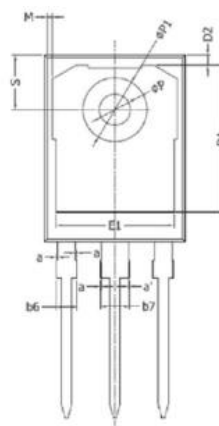
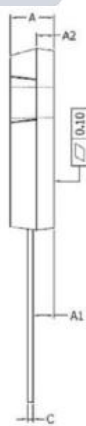
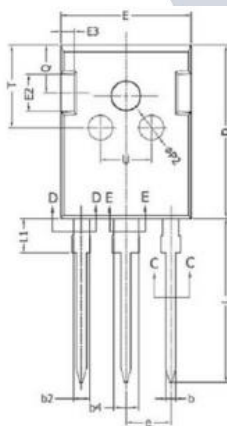
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case IGBT	0.39	$^\circ\text{C/W}$
$R_{th\ j-c}$	Thermal Resistance, Junction to Case Diode	0.41	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V_{CES}	Collector-Emitter Breakdown Voltage	$V_{GE}=0, I_C=0.2\text{mA}$	650	--	--	V
$V_{GE(th)}$	Gate-Emitter Threshold Voltage	$V_{GE}=V_{CE}, I_C=0.66\text{mA}$	2.9	--	4.8	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=75\text{A}, V_{CE}=15\text{V}, T_J=25^\circ\text{C}$	--	1.4	1.65	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=75\text{A}, V_{CE}=15\text{V}, T_J=175^\circ\text{C}$	--	1.6	--	V
I_{CES}	Zero Gate Voltage Collector Current	$V_{CE}=650\text{V}, V_{GE}=0$	--	--	25	μA
I_{GES}	Gate-Emitter Leakage Current	$V_{GE}=\pm 20\text{V}, V_{CE}=0$	--	--	± 100	nA
V_F	Diode forward voltage	$I_F=75\text{A}, T_J=25^\circ\text{C}$	--	--	2.0	V

Package Information



SYMBOL	MIN	NOM	MAX
A	4.90	5.00	5.10
A1	2.31	2.41	2.51
A2	1.90	2.00	2.10
a	0	—	0.15
a'	0	—	0.15
b	1.16	—	1.26
b1	1.15	1.2	1.22
b2	1.96	—	2.06
b3	1.95	2.00	2.02
b4	2.96	—	3.06
b5	2.96	3.00	3.02
b6	—	—	2.25
b7	—	—	3.25
c	0.59	—	0.66
c1	0.58	0.60	0.62
D	20.90	21.00	21.10
D1	16.25	16.55	16.85
D2	1.05	1.17	1.35
E	15.70	15.80	15.90
E1	13.10	13.30	13.50
E2	4.40	4.50	4.60
E3	1.50	1.60	1.70
e	5,436 BSC		
L	19.80	19.92	20.10
L1	—	—	4.30
M	0.35	—	0.95
P	3.40	3.50	3.60
P1	7.00	—	7.40
P2	2.40	2.50	2.60
Q	5.60	—	6.00
S	6.05	6.15	6.25
T	9.80	—	10.20
U	6.00	—	6.40



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