

DESCRIPTION:

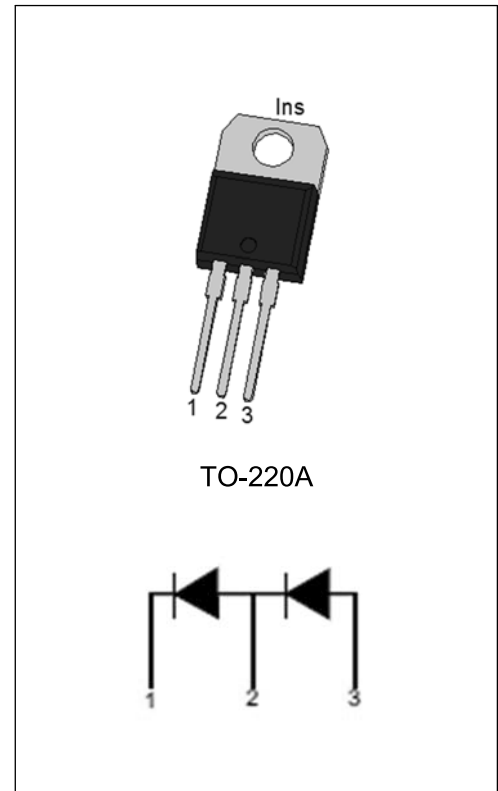
- ✧ 650V Schottky rectifier
- ✧ Zero reverse recovery current
- ✧ Zero forward recovery voltage
- ✧ High frequency operation
- ✧ Switching characteristics independent of temperature
- ✧ Positive temperature coefficient of forward voltage (V_F)

BENEFIT:

- ✧ Lower switching loss
- ✧ No thermal runaway in parallel devices
- ✧ Lower heatsink dependent
- ✧ Electrically isolated package
- ✧ Ceramic package provides 2.5KV isolation

APPLICATION:

- ✧ HAVC
- ✧ Switch mode power supplies(SMPS)
- ✧ Boost diodes in PFC or DC/DC stages
- ✧ Free wheeling diodes in inverter stages
- ✧ AC/DC converters



ABSOLUTE MAXIMUM RATING

(Rating at 25°C junction temperature unless otherwise specified.)

Parameter		Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	650	V
Forward rms current		$I_{F(RMS)}$	22	A
Average forward current	$T_c = 100^\circ\text{C}$, DC current	$I_{F(AV)}$	6	A
Surge non repetitive forward current	$t_p = 10\text{ms}$ sinusoidal, $T_c = 25^\circ\text{C}$	I_{FSM}	60	A
	$t_p = 100\text{ms}$ sinusoidal, $T_c = 125^\circ\text{C}$		52	
	$t_p = 10\mu\text{s}$ sinusoidal, $T_c = 25^\circ\text{C}$		400	
Repetitive peak forward current	$T_c = 100^\circ\text{C}(1)$, $\delta = 0.1$	I_{FRM}	25	A
Operating junction temperature		T_j	-55 to +175	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to +175	$^\circ\text{C}$

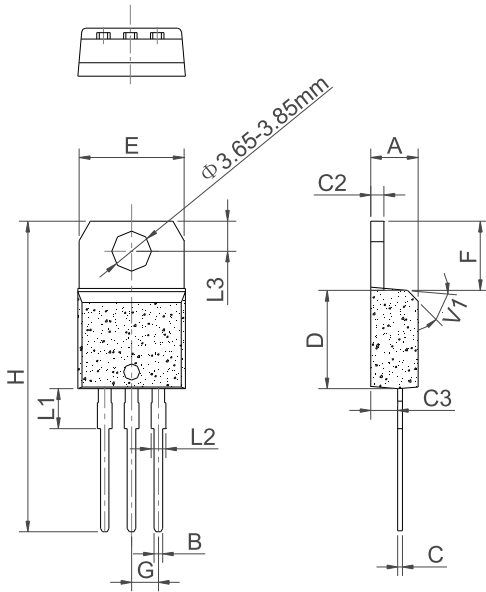
ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
Forward voltage	$I_F=6A, T_j=25^\circ C$	V_F	-	1.56	1.75	V
	$I_F=6A, T_j=150^\circ C$		-	1.98	2.5	
Reverse current	$V_R=650V, T_j=25^\circ C$	I_R	-	5	60	μA
	$V_R=650V, T_j=150^\circ C$		-	50	250	
Total capacitive charge	$V_R=400 V$	Q_{cj}	-	18	-	nC
Total capacitance	$V_R=0V, T_c =25^\circ C,$ $F=1 MHz$	C_j	-	300	-	pF
	$V_R=400V, T_c =25^\circ C,$ $F=1 MHz$		-	30	-	

THERMAL CHARACTERISTICS

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to Case	Per diode	3.8	$^\circ C/W$
		Total	2.05	

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

CHARACTERISTICS CURVE

FIG.1: Forward voltage drop versus forward current (typical values, low level, per diode)

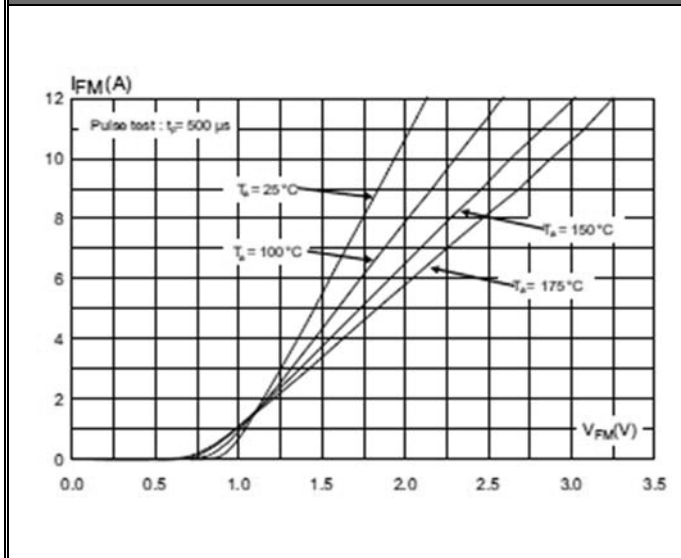


FIG.2: Forward voltage drop versus forward current (typical values, high level, per diode)

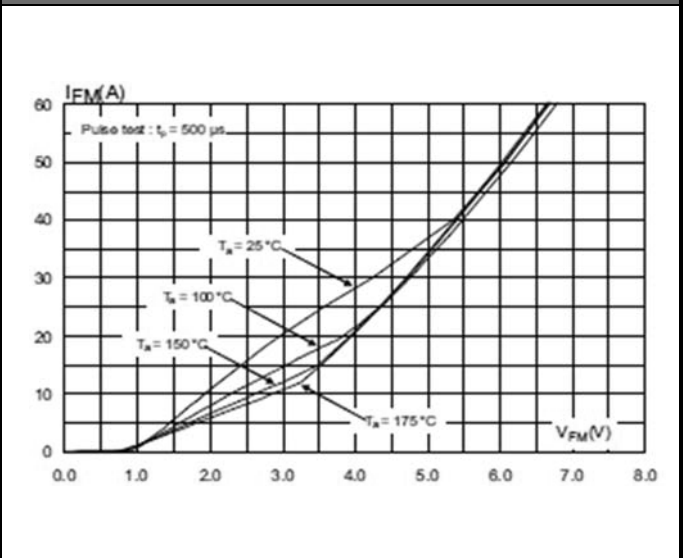


FIG.3: Reverse leakage current versus reverse voltage applied (typical values, per diode)

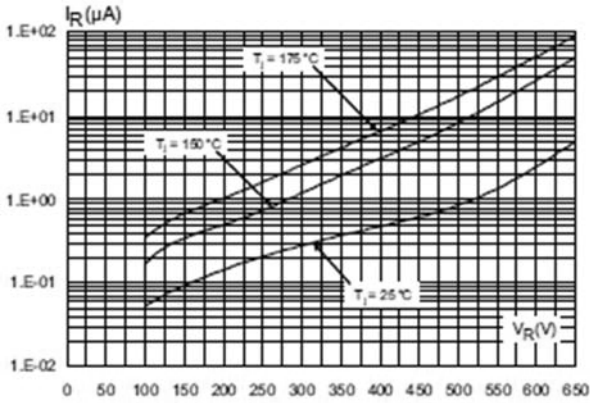


FIG.4: Peak forward current versus case temperature (per diode)

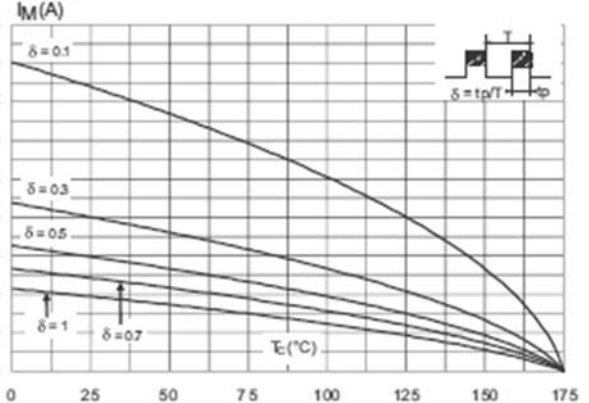


FIG.5: Junction capacitance versus reverse voltage applied (typical values, per diode)

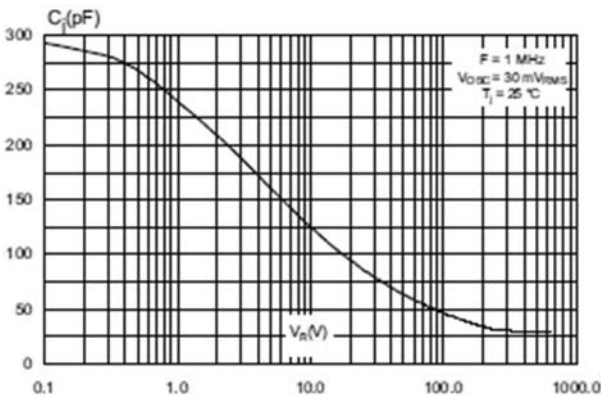


FIG.6: Relative variation of thermal impedance junction to case versus pulse duration

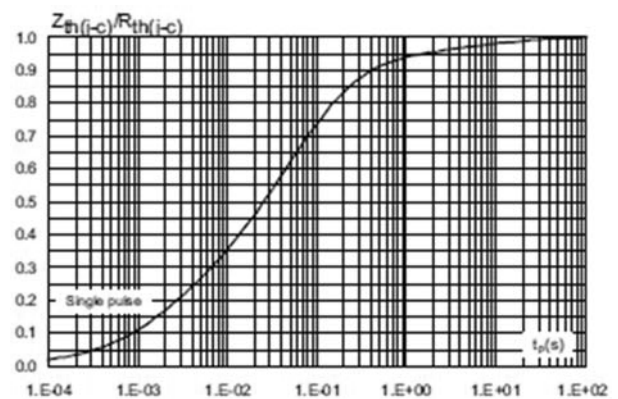


FIG.7: Non-repetitive peak surge forward current versus pulse duration (sinusoidal waveform, per diode)

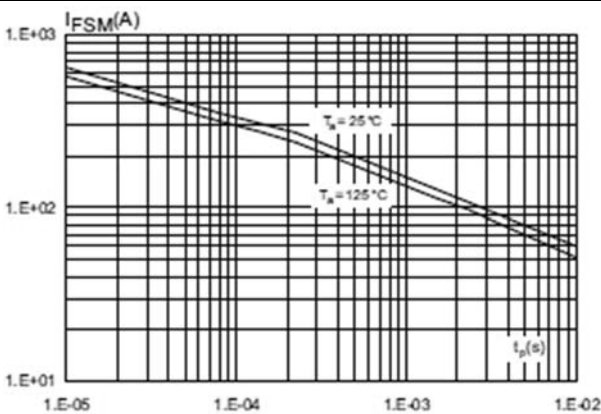


FIG.8: Total capacitive charges versus reverse voltage applied (typical values, per diode)

