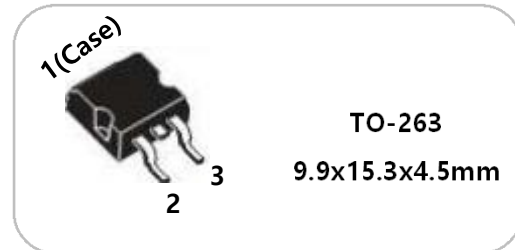


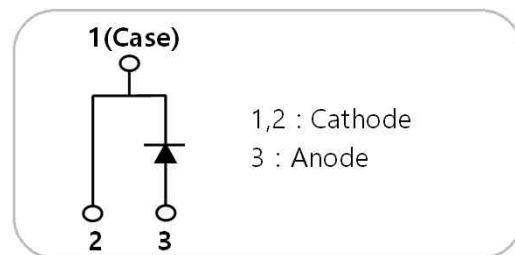

General description

Symbol	Value
V_{BR} @ $T_C=25^\circ\text{C}$	Min 650V
I_F @ $T_C=150^\circ\text{C}$	10A
Q_C	Typ 30nC


Package


Features

- Low forward voltage
- 175°C maximum operating temperature
- Negligible reverse recovery current.
- Fast switching speed



Applications

- General purpose
- Switching mode power supply
- Boot diodes in PFC at DC/DC
- Industrial motor drives
- Motor drivers
- Solar inverters


Maximum ratings ($T_C = 25^\circ\text{C}$)

Parameter	Symbol	Test condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	-	650	V
DC peak reverse voltage	V_R	-	650	V
Continuous forward current	I_F	$T_C=150^\circ\text{C}$	10	A
Non-repetitive forward surge current	I_{FSM}	$t_p=10$ ms, Half sine pulse	75	A
Power dissipation	P_{tot}	$T_C=25^\circ\text{C}$	115	W
Operating and storage temperature range	$T_{J, T_{stg}}$	-	-55 to 175	$^\circ\text{C}$

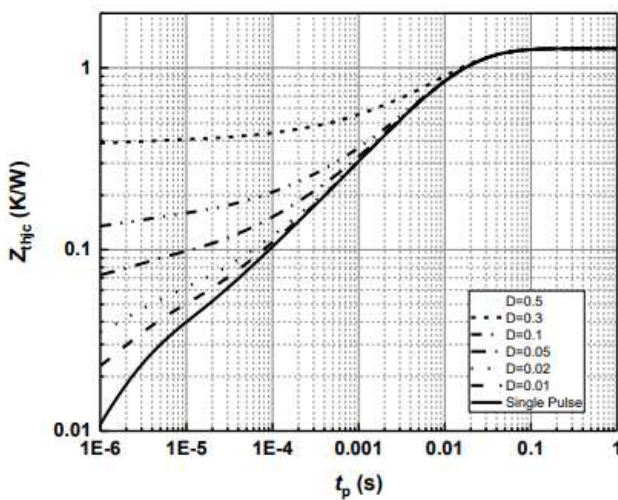
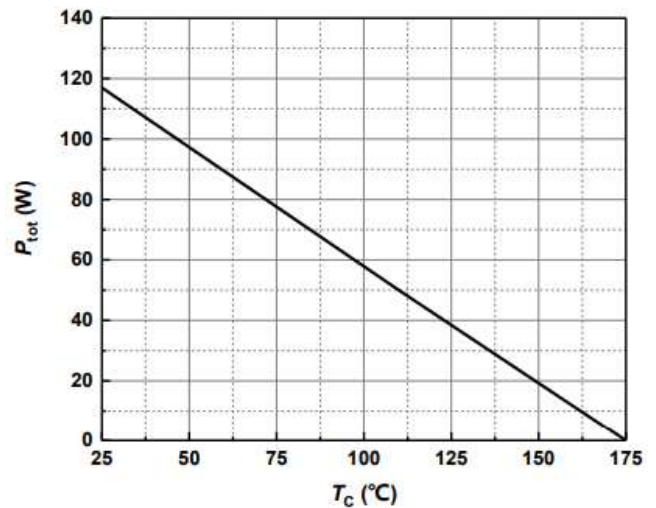



Electrical characteristics ($T_C = 25^\circ\text{C}$)

Parameter	Symbol	Test condition	Value			Unit
			Min	Typ	Max	
Forward voltage	V_F	$I_F=10\text{A}, T_C=25^\circ\text{C}$	-	1.43	-	V
		$I_F=10\text{A}, T_C=175^\circ\text{C}$	-	1.75	-	V
Reverse current	I_R	$V_R=650\text{V}, T_C=25^\circ\text{C}$	-	1	200	μA
		$V_R=650\text{V}, T_C=175^\circ\text{C}$	-	20	-	μA
Total capacitive charge	Q_C	$V_R=400\text{V}, Q_C = \int C(V)dV$	-	30	-	nC
Total capacitance	C	$V_R=1\text{V}, f=1\text{MHz}$	-	460	-	pF
		$V_R=600\text{V}, f=1\text{MHz}$	-	50	-	pF

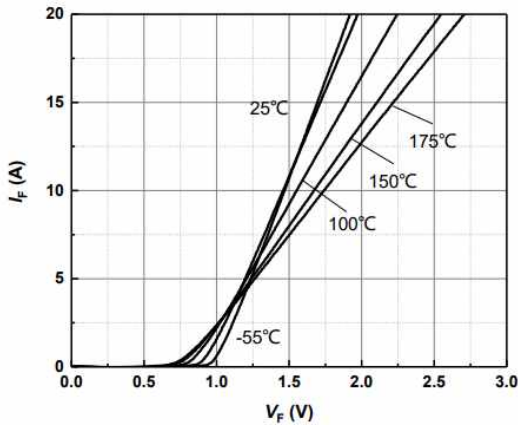

Thermal characteristics ($T_C = 25^\circ\text{C}$)

Symbol	Parameter	Max	Unit
$R_{th(j-c)}$	Junction to case	1.3	$^\circ\text{C}/\text{W}$

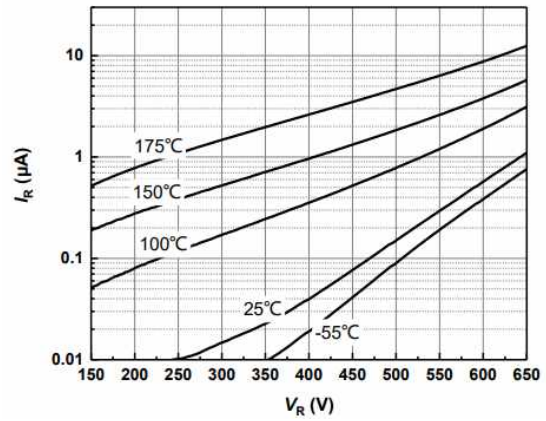
 $t_p - Z_{thjc}$ Characteristics

 $T_C - P_{tot}$ Characteristics


Typical electrical characteristics curves ($T_C = 25^\circ\text{C}$)

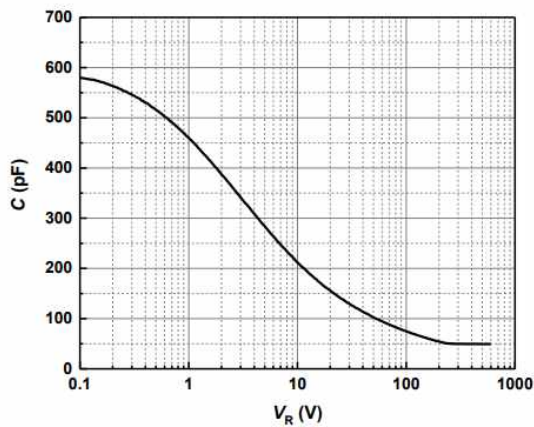
$V_F - I_F$ Characteristics



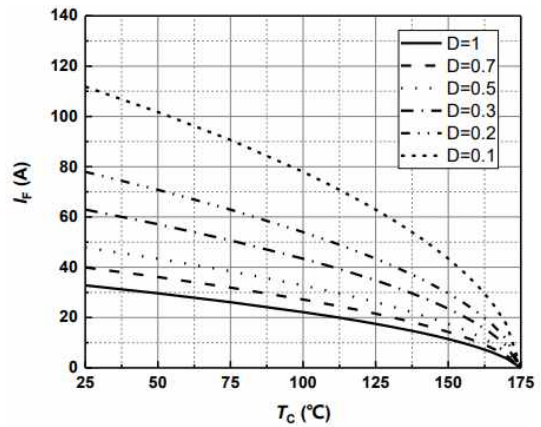
$V_R - I_R$ Characteristics



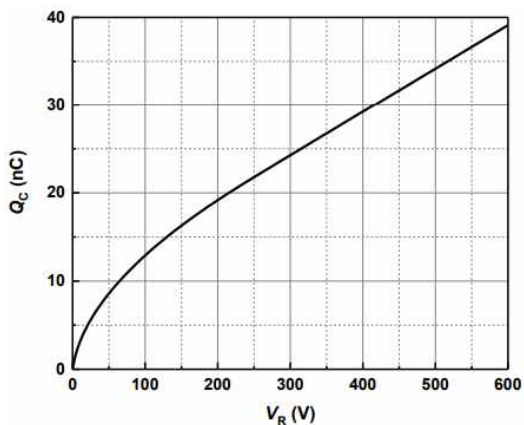
$V_R - C_T$ Characteristics



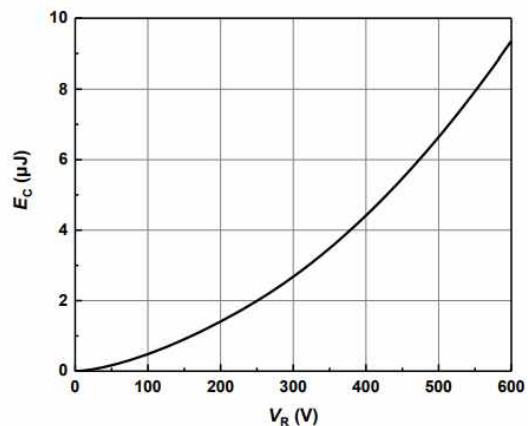
$T_C - I_F$ Characteristics



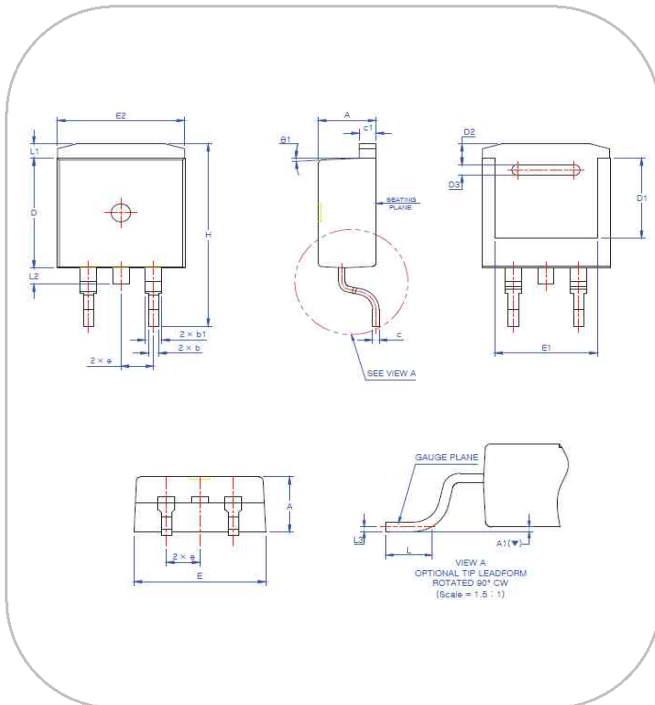
$V_R - Q_C$ Characteristics



$V_R - E_C$ Characteristics



Package dimensions(TO-263)



Symbol	Min	Nom	Max
A	4.30	4.50	4.70
A1(▼)	0.00	-	0.25
b	0.70	0.80	0.90
b1	1.17	1.27	1.37
c	0.45	0.50	0.60
c1	1.25	1.30	1.40
D	9.00	9.20	9.40
D1	6.50	6.70	6.90
D2	1.65	1.75	1.85
D3	0.80	0.90	1.00
E	9.80	10.00	10.20
E1	7.80	8.00	8.20
E2	9.70	9.90	10.10
e	2.54 BSC		
H	15.00	15.30	15.60
L	2.00	2.30	2.60
L1	1.00	1.20	1.40
L2	1.20	1.40	1.60
L3	0.254 BSC		
θ1	(3°)		

Marking information

