

Features

Ultra Low $V_F=0.34V$ at $I_F=1A$ ($25^{\circ}C$)

Ultra Low $V_F=0.47V$ at $I_F=5A$ ($25^{\circ}C$)

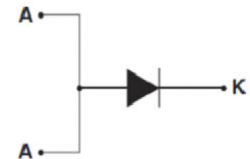
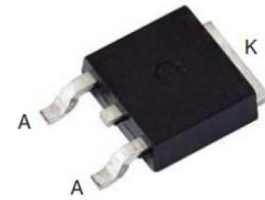
- Low forward voltage drop, low power losses
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0

Mechanical Data

- Case: Epoxy, Molded
- Weight: 0.4grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: $260^{\circ}C$ Max. for 10 sec
- Shipped 2500 units per reel

TO-252 (D-PAK)

2018



Maximum Ratings & Electrical Characteristics

($T_A=25^{\circ}C$ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	SBRD545S	UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	45	V
Working peak reverse voltage			V_{RWM}	45	V
Maximum DC blocking voltage			V_{DC}	45	V
Maximum average forward rectified current at $T_c=105^{\circ}C$ total device per diode			$I_F(AV)$	5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	100	A
Peak repetitive reverse current per leg at $t_p=2.0\mu s$, 1KHz			I_{RRM}	2.0	A
Voltage rate of change (rated V_R)			DV/dt	10000	V/ μs
Operating junction temperature range			T_J	-55 to +150	$^{\circ}C$
Storage temperature range			T_{STG}	-55 to +150	$^{\circ}C$
Isolation voltage (ITO-220-AB only) from terminal to heatsink $t = 1$ sec			V_{AC}	1500	V
Maximum instantaneous forward voltage per leg	$I_F=5A$ $I_F=5A$	$T_c=25^{\circ}C$ $T_c=125^{\circ}C$	V_F	0.50(0.47 TYP) 0.42	V
Maximum reverse current per leg at working peak Reverse voltage			I_R	200 15	μA mA

Thermal Characteristics $T_A=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	TYP (TO252)	Unit
R θ JC	Thermal Resistance, Junction to Case per Leg	3.5	$^{\circ}C/W$
R θ JA	Thermal Resistance, Junction to Ambient per Leg	62.5	$^{\circ}C/W$

Note: Pulse test: 300 μs pulse width, duty cycle=2%

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

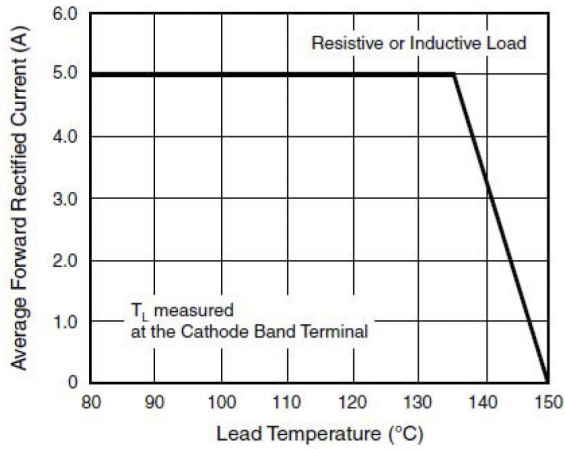


Fig. 1 - Maximum Forward Current Derating Curve

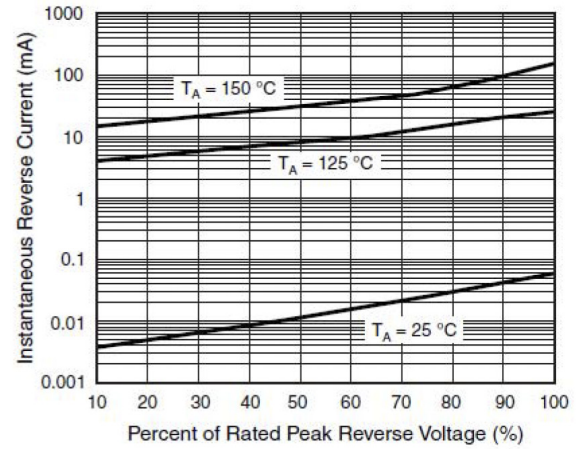


Fig. 4 - Typical Reverse Leakage Characteristics

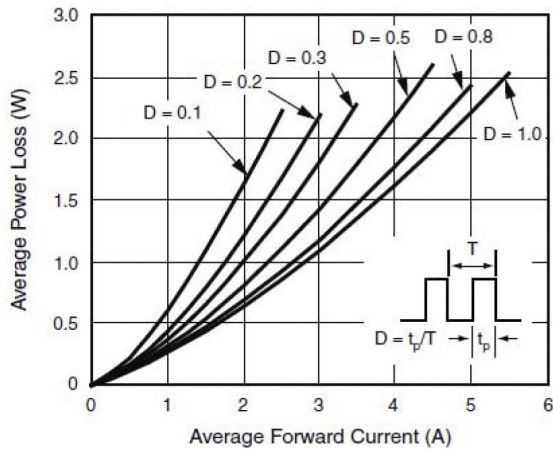


Fig. 2 - Forward Power Loss Characteristics

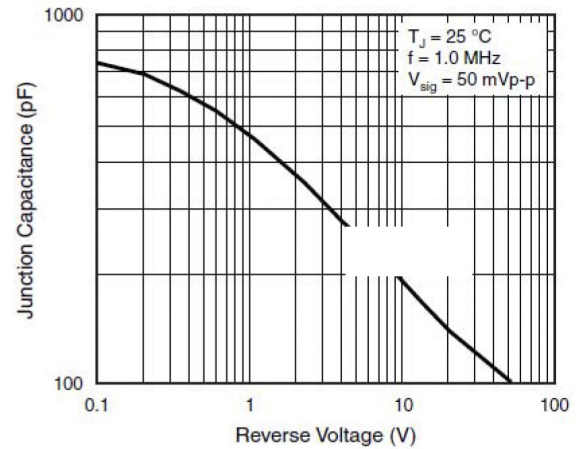


Fig. 5 - Typical Junction Capacitance

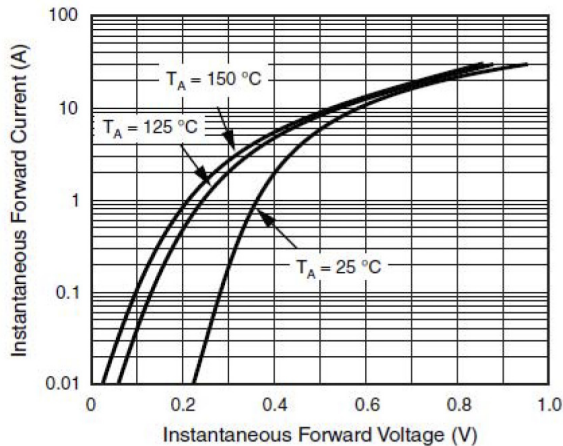


Fig. 3 - Typical Instantaneous Forward Characteristics

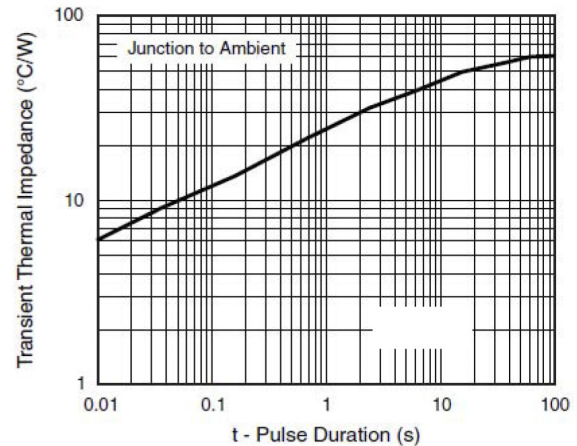


Fig. 6 - Typical Transient Thermal Impedance

Package Outline Dimensions

Unit: millimeters

TO-252(D-PAK)

