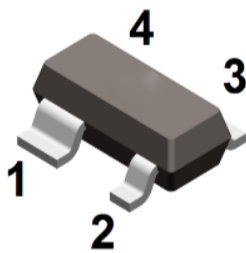


Features

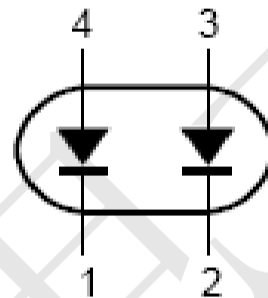
- Continuous reverse voltage: max.200V
- Switching speed: 50ns
- Repetitive peak reverse voltage: max.250V
- Repetitive peak forward current: max.625mA
- RoHS compliant with Halogen-free



SOT-143

Mechanical Data

- Case: SOT-143
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V_{RRM}	250	V
DC Blocking Voltage	V_R	200	V
Forward Continuous Current (single diodes)	I_F	225	mA
Forward Continuous Current (double diodes)		125	mA
Repetitive Peak Forward Surge Current	I_{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current, $t = 1\mu\text{s}$	I_{FSM}	9	A
Non-Repetitive Peak Forward Surge Current, $t = 1\text{ms}$		3	A
Non-Repetitive Peak Forward Surge Current, $t = 1\text{s}$		1.7	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$)	P_D	400	mW
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	312	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	215	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	227	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-65 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 ~ +150	$^\circ\text{C}$

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu A$	200	-	-	V
Forward Voltage	V_F	$I_F = 100mA$	-	-	1.00	V
		$I_F = 200mA$	-	-	1.25	V
Forward Voltage Series Connection		$I_F = 100mA$			2.00	V
		$I_F = 200mA$	-	-	2.50	V
Reverse Leakage Current	I_R	$V_R = 200V, T_J = 25^{\circ}C$	-	-	100	nA
		$V_R = 200V, T_J = 150^{\circ}C$	-	-	100	μA
Reverse Leakage Current Series Connection		$V_R = 400V, T_J = 25^{\circ}C$	-	-	100	nA
		$V_R = 400V, T_J = 150^{\circ}C$	-	-	100	μA
Total Capacitance	C_J	$V_R = 0V, f = 1.0MHz$	-	-	5	pF
Total Capacitance Series Connection		$V_R = 0V, f = 1.0MHz$	-	-	2.5	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10mA$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	-	-	50	ns

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

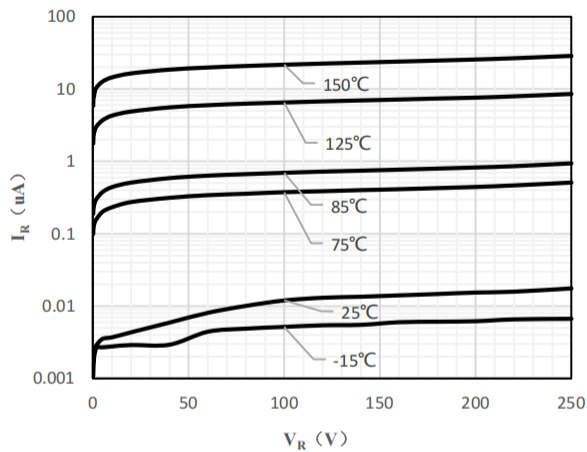


Fig 1 Typical Reverse Characteristic

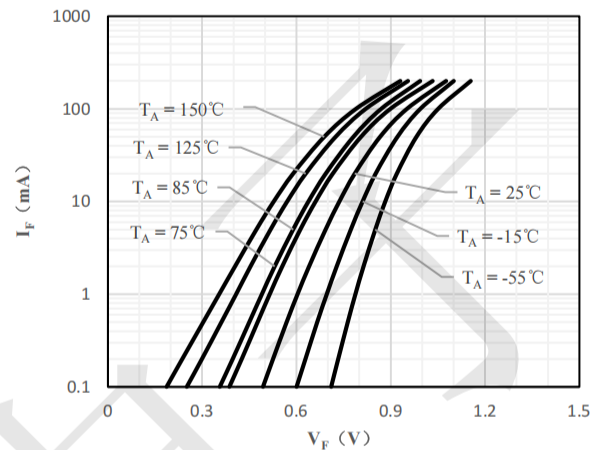


Fig 2 Typical Forward Characteristics

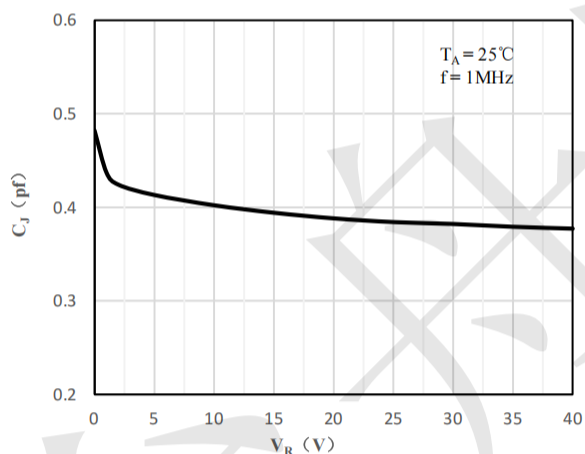


Fig 3 Capacitance vs. Reverse Voltage

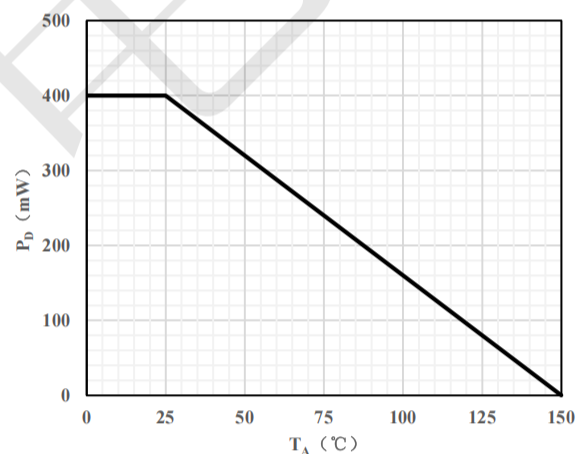


Fig 4 Power Derating Curve

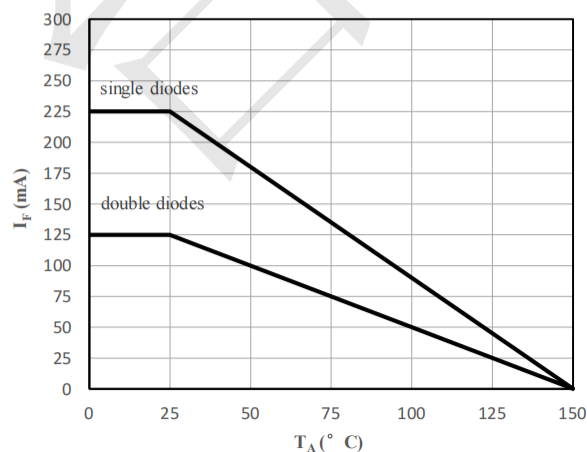
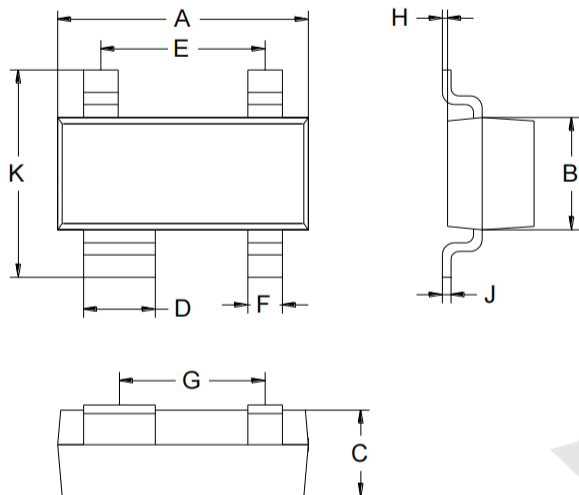


Fig 5 Current Derating Curve

Package Outline Dimensions (Unit: mm)

SOT-143



SOT-143		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.78	0.88
E	1.80	2.00
F	0.37	0.43
G	1.59	1.79
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

