

SOT-363 Plastic-Encapsulate Diodes

SWITCHING DIODE

General Description

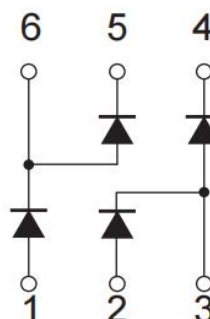
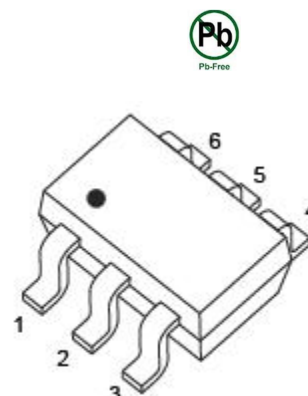
V_R	I_F	$V_{F_{max}}$	I_{FSM}	T_{jmax}
75V	300mA	1.25V@ $I_F=150mA$	2A	150°C

Features

- SOT-363 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260°C/10seconds
at terminals

Application

- Extreme fast switches
- Automotive



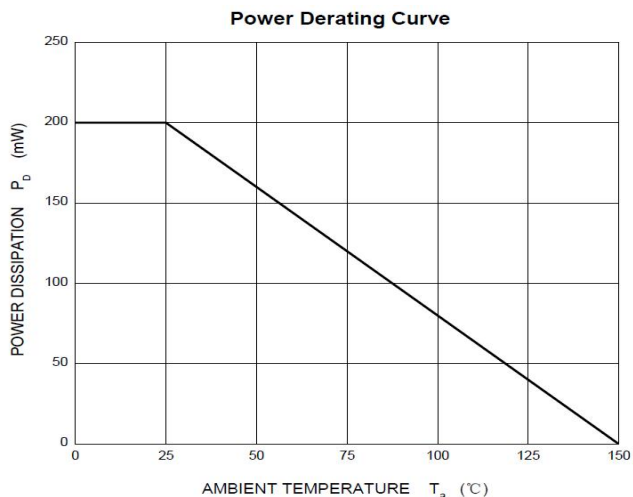
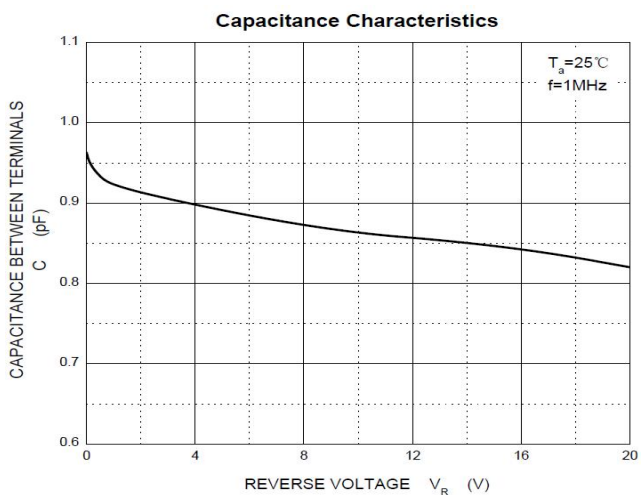
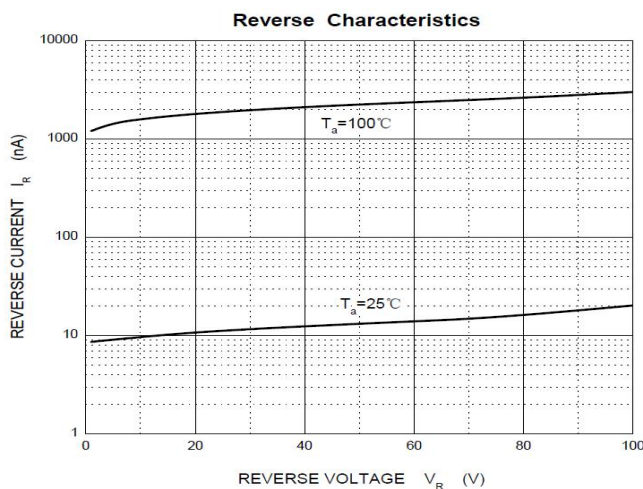
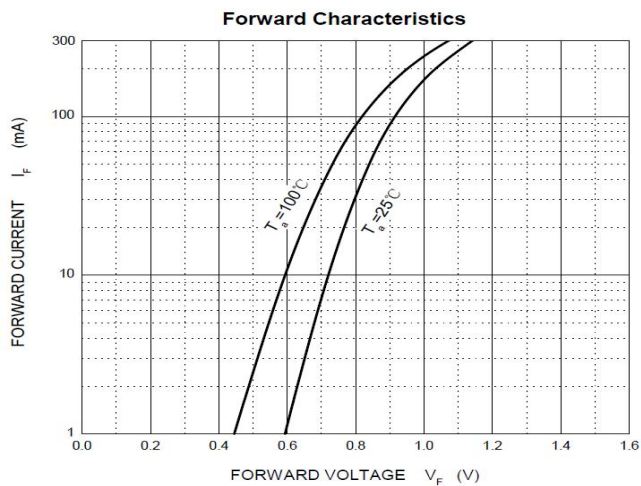
Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbols	Value	Units
Peak Repetitive Peak Reverse Voltage	VRRM	75	V
Working Peak Reverse Voltage	VRWM		
DC Blocking Voltage	VR		
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ $t=8.3ms$	I_{FSM}	2	A
Forward Continuous Current	I_{FM}	300	mA
Power Dissipation	P_d	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55-+150	°C

Electrical Characteristics (Ta=25°C unless otherwise noted)

Symbols	Parameter	Conditions	Limits		Unit
			Min.	Max.	
V(BR)	Reverse Breakdown Voltage	IR=2.5uA	75	---	V
IR	Reverse Leakage Current	VR=75V	---	2.5	uA
		VR=20V		25	nA
VF	Forward Voltage	IF=1mA	---	0.715	V
		IF=10mA		0.855	
		IF=50mA		1	
		IF=150mA	---	1.25	
TRR	Reverse Recovery Time	IF= IR=10mA, Irr=0.1×IR, RL=100Ω	---	4	nS
Ctot	Total Capacitance	VR=0V, f=1MHZ	---	2	pF

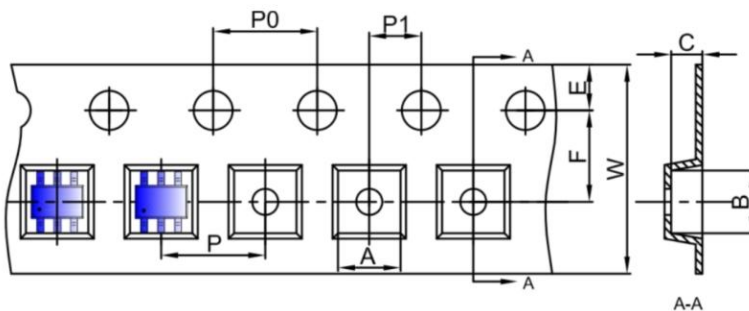
Typical characteristics



SOT-363 Small-Signal Switching Diodes

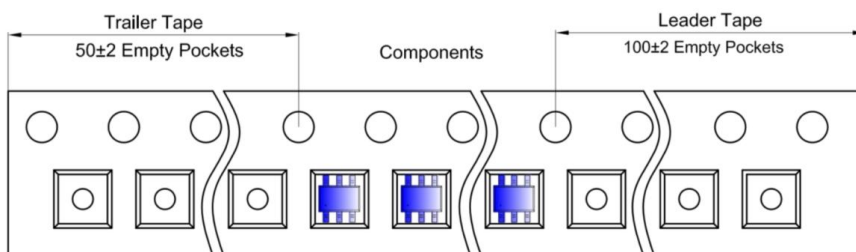
Package Information

Carrier Dimension(mm)

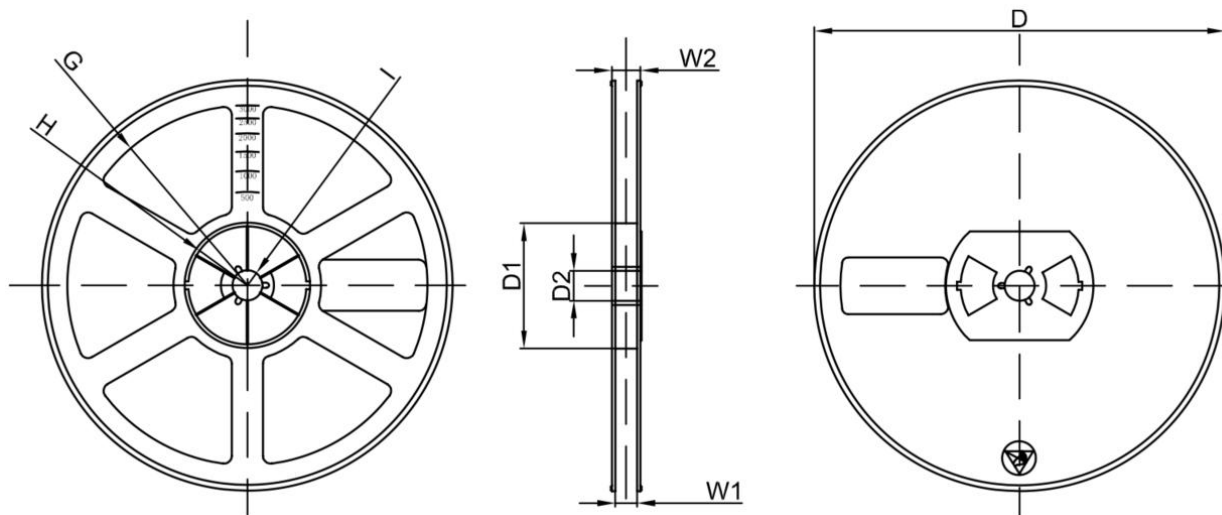


Dimensions are in millimeter

Pkg Type	A	B	C	d	E	F	P0	P	P1	W
SOT-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00



Reel Dimension(mm)



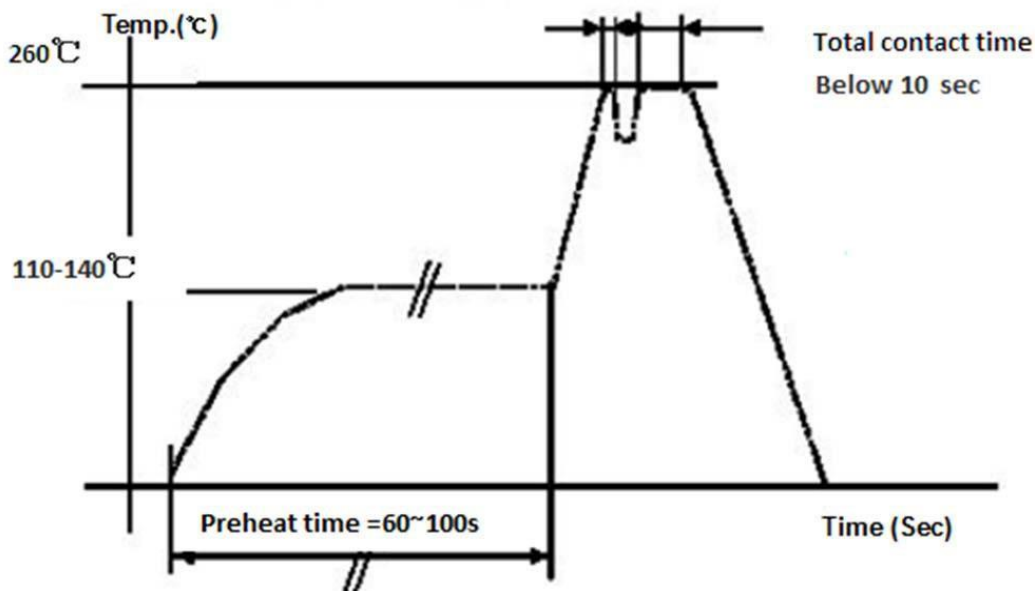
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

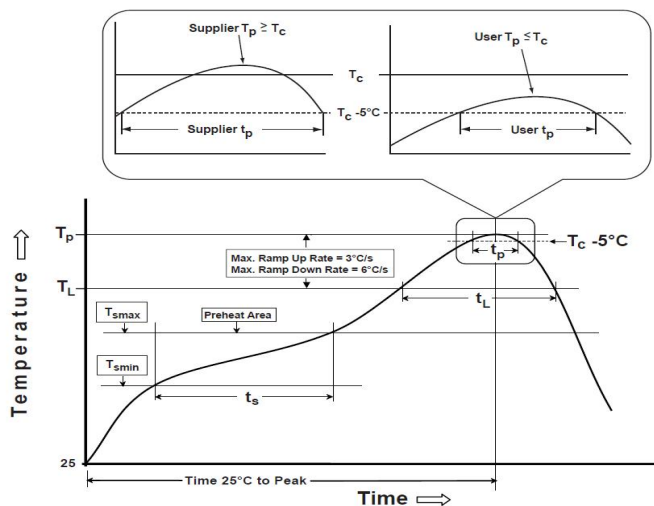
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT363	7'	178	3	210*208*203	45	440*400*230	180

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020



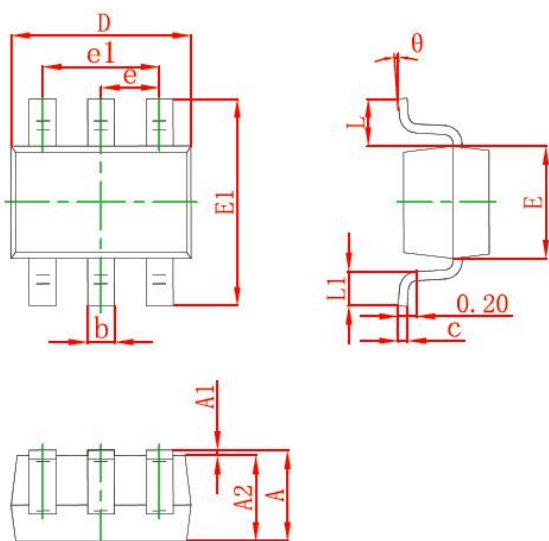
IPC-020D 5.1

Preheat/Soak Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (t _s) from (T _{smin} to T _{smax})	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5°C
Time within 5°Cbelow Peak Temp.	20~40 Sec
Cooling Rate	6°C/sec (max)
Time from 25°C to Peak Temp.	8min (max)

c) Manual Soldering

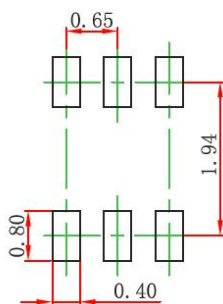
When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

Package Mechanical Data



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
θ	0°	8°

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.