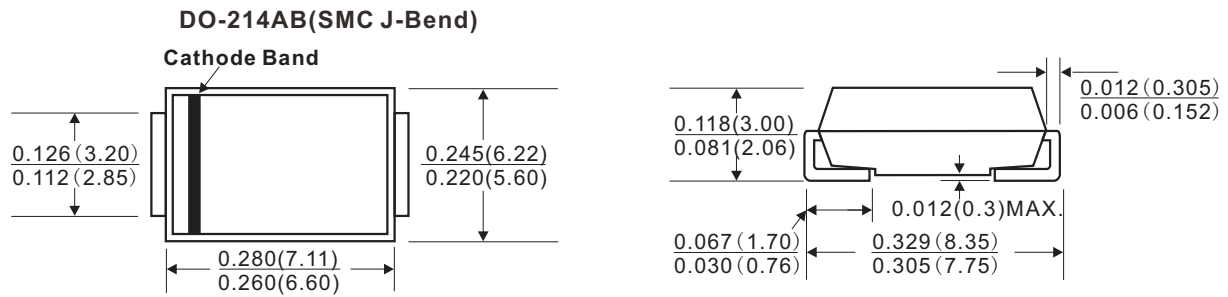


Dimensions (DO-214AB)



Dimensions in inches and(millimeters)

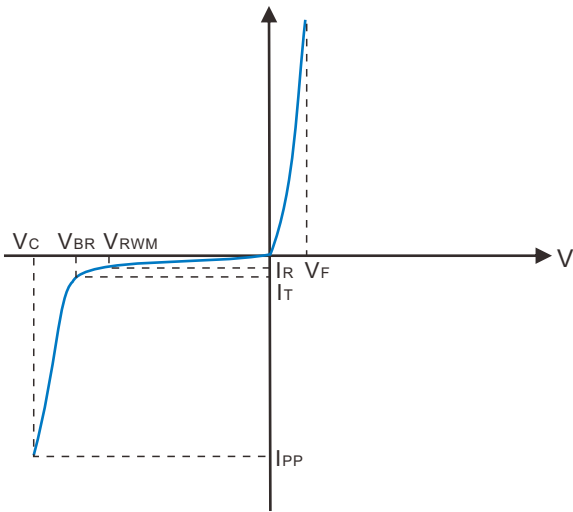
Electrical Characteristics

TSD Part Number		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @IT		Test Current	Maximum Clamping Voltage @Ipp	Peak Pulse Current	Reverse Leakage @VRWM
UNI-Polar	BI-Polar	UNI	BI	VRWM(V)	VBR(V)Min.	VBR(V)Max.	IT(mA)	Vc(V)	Ipp(A)	IR(μA)
TSD6.0U	TSD6.0B	GDG	BDG	6.0	6.67	7.37	10	10.3	174.8	200
TSD8.0U	TSD8.0B	GDR	BDR	8.0	8.89	9.83	1	13.6	132.4	50
TSD12U	TSD12B	GEE	BEE	12.0	13.30	14.70	1	19.9	90.5	1
TSD15U	TSD15B	GEM	BEM	15.0	16.70	18.50	1	24.4	73.8	1
TSD16U	TSD16B	GEP	BEP	16.0	17.80	19.70	1	26.0	69.2	1
TSD20U	TSD20B	GEV	BEV	20.0	22.20	24.50	1	32.4	55.6	1
TSD22U	TSD22B	GEX	BEX	22.0	24.40	26.90	1	35.5	50.7	1
TSD26U	TSD26B	GFE	BFE	26.0	28.90	31.90	1	42.1	42.8	1
TSD28U	TSD28B	GFG	BFG	28.0	31.10	34.40	1	45.4	39.6	1
TSD30U	TSD30B	GFK	BFK	30.0	33.30	36.80	1	48.4	37.2	1
TSD33U	TSD33B	GFM	BFM	33.0	36.70	40.60	1	53.3	33.8	1
TSD36U	TSD36B	GFP	BFP	36.0	40.00	44.20	1	58.1	31.0	1
TSD40U	TSD40B	GFR	BFR	40.0	44.40	49.10	1	64.5	27.9	1
TSD58U	TSD58B	GGG	BGG	58.0	64.40	71.20	1	93.6	19.2	1
TSD60U	TSD60B	GGK	BGK	60.0	66.70	73.70	1	96.8	18.6	1
TSD150U	TSD150B	GHM	BHM	150.0	167.00	185.00	1	243.0	7.4	1
TSD170U	TSD170B	GHR	BHR	170.0	189.00	209.00	1	275.0	6.5	1

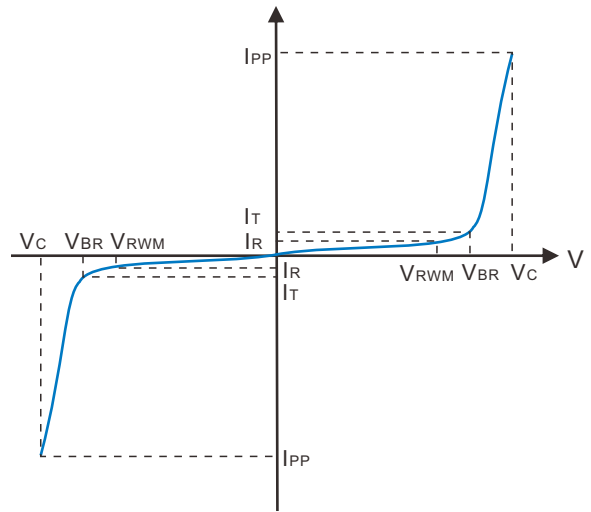
For bidirectional type having VRWM of 10 volts and less, the IR limit is double.

I-V Curve Characteristics

Uni-directional



Bi-directional



Ratings And Characteristic Curves(TA=25°C Unless otherwise noted)

Fig.1 Peak Pulse Power Rating

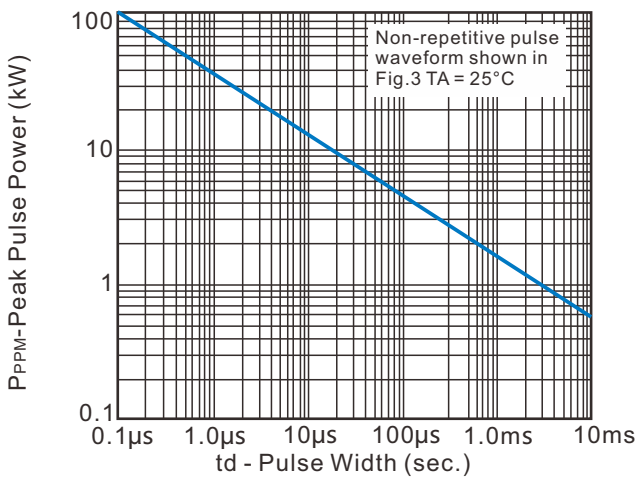


Fig.2 Pulse Derating Curve

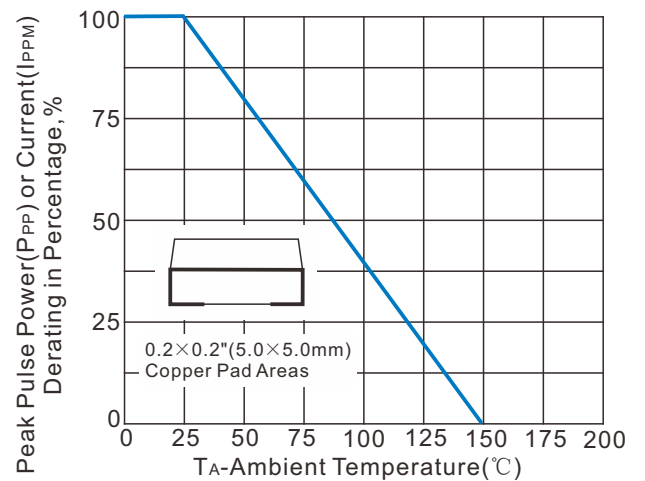


Fig.3 Pulse Waveform

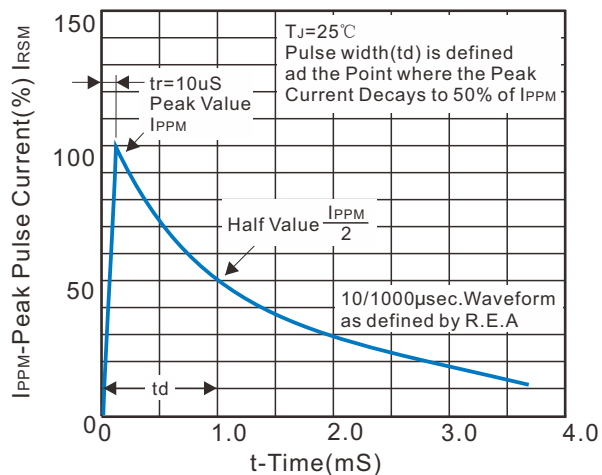
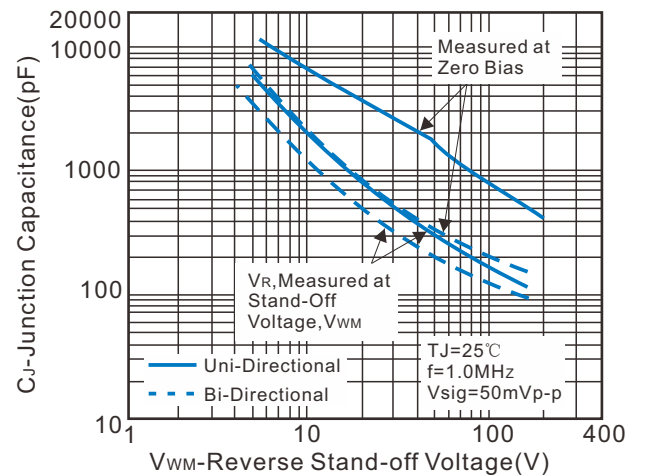


Fig.4 Typical Junction Capacitance



Ratings And Characteristic Curves

Fig.5 Typ. Transient Thermal Impedance

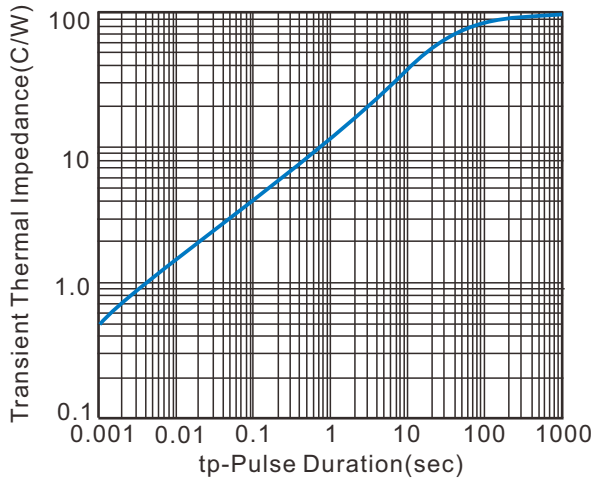
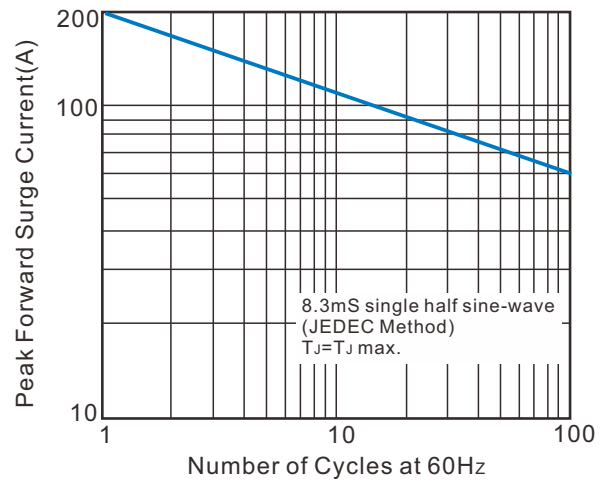


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only

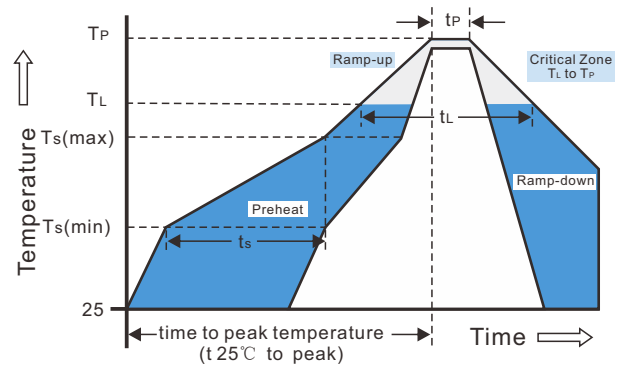


Recommended Soldering Conditions

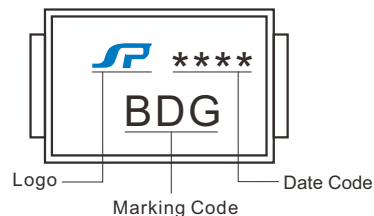
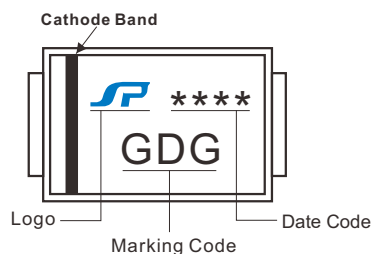
Recommended Conditions

Reflow Condition		Pb-Free assembly (see Fig.1)
Pre Heat	-Temperature Min($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time(Min to Max)(t_s)	60-180secs
Average ramp up rate (Liquidus Temp(T_L) to peak)		3°C/sec.Max.
$T_{s(max)}$ to T_L -Ramp-up Rate		3°C/sec.Max.
Reflow	-Temperature(T_L)(Liquidus)	+217°C
	-Temperature(t_L)	60-150secs
Peak Temp(T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp(t_P)		30 secs.Max.
Ramp-down Rate		6°C/sec.Max.
Time 25°C to Peak Temp(T_P)		8 min.Max.
Do not exceed		+260°C

Reflow Soldering



Marking Code



Packing Options And Reel Specification-DO-214AB

Symbol	Ea Per Reel	REEL DIA (mm)	Industry Standard
TSD***	500	178	EIARS-481

