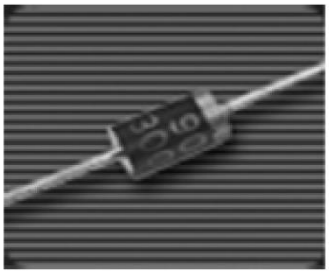
5Amp. MOS BARRIER RECTIFIER

SKM0545ULD

$I_{F(AV)}$	5A
V_{RRM}	45V
V_F at 125°C	0.42V
Tj	150°C

DO-201AD



Features

- 150℃ operating junction temperature
- Softest, fast switching capability
- Reduced ultra-low forward voltage drop (VF) ; better efficiency and cooler operation.
- Lead-Free Finish; RoHS Compliant
- Halogen and Antimony Free. "Green" Device
- MCD technology provides a superior avalanche capability than schottky diodes

Mechanical Data

- Case: DO-201AD molded plastic
- Terminals: Plated axial leads, solderable per MIL-STD-750 method
- Polarity: Color band denotes cathode end.
- Epoxy: UL 94V-0 rate flame retardant
- Polarity : As marked.

Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.)

Parameter		Symbol	Min.	Typ.	Max.	Units
Maximum DC blocking voltage		V_{DC}			45	V
Maximum Recurrent peak reverse voltage		V_{RRM}			45	V
Maximum RMS voltage		V_{RMS}			32	V
Maximum instantaneous forward voltage at I_F=15A	T_C=25°C	V_F		0.46	0.49	V
	T_C=125°C			0.42	0.45	
Maximum instantaneous reverse current at	V_R=45 V, T_C=25℃	I_R		60	300	μA
	V_R=45 V, T_C=125℃			15	35	mA

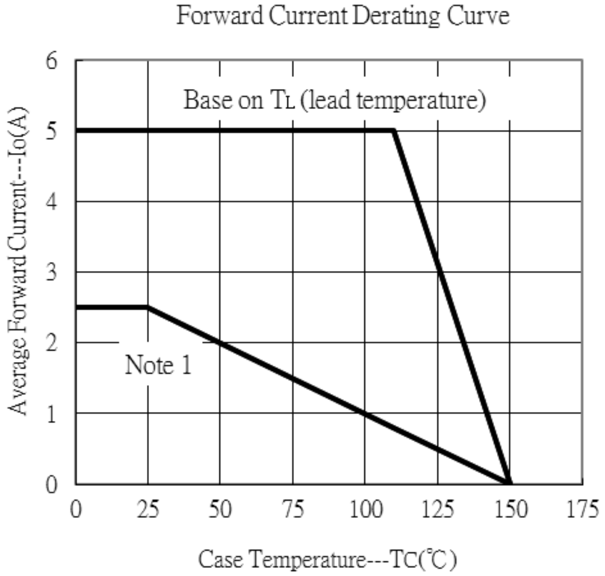
Maximum Average forward rectified current @ T_C=100℃	$I_{F(AV)}$			5	A
Non-repetitive peak forward surge current @ 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	120			A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}			2	A
Storage temperature range	Tstg	-55		150	℃
Operating junction temperature range	T_J	-55		150	℃

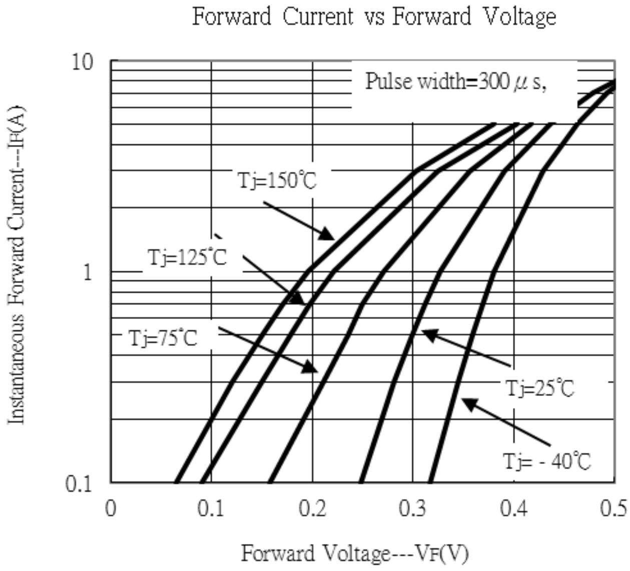
Thermal Data

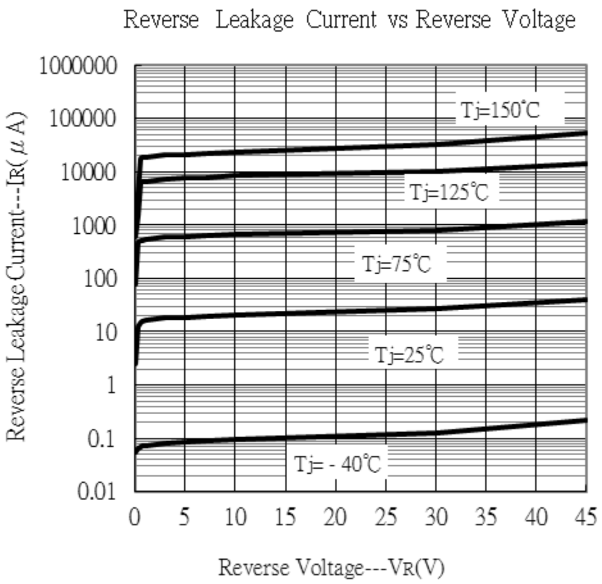
Parameter	Symbol	Value	Unit
Typical Thermal Resistance, Junction-to-ambient(1)	$R_{th,j-a}$	60	°C/W
Typical Resistance, Junction-to-lead(2)	$R_{th,j-l}$	10	°C/W

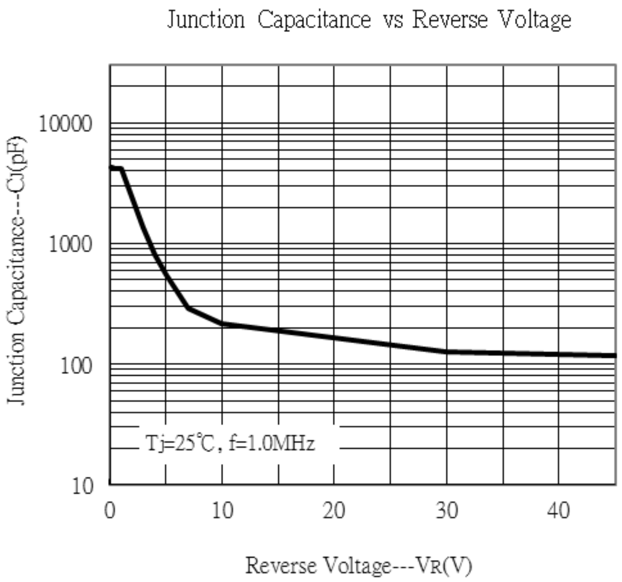
Note
1. 10mm lead length between copper pad
2. Thermal resistance, junction to lead, vertical PCB mounted, 0.375"(9.5mm) lead length

Typical Characteristics





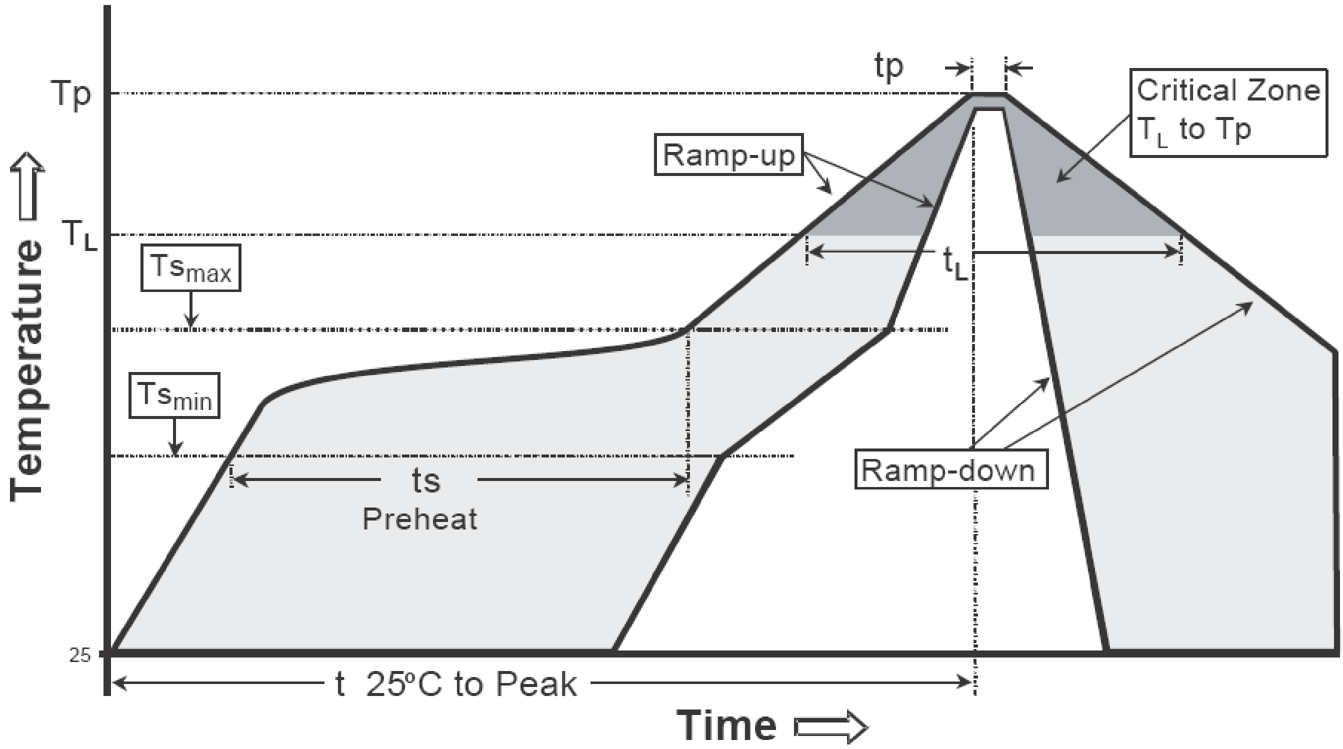




Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

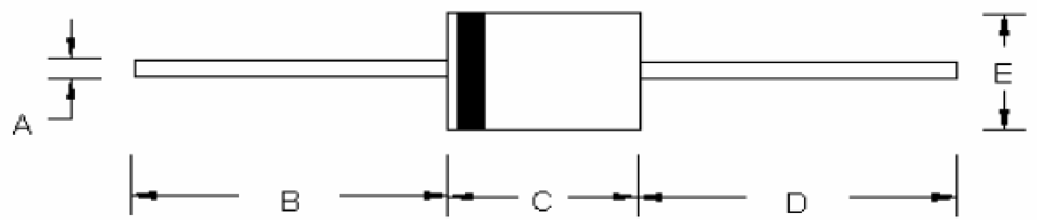
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(T_S min) −Temperature Max(T_S max) −Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (T_L) − Time (t_L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T_P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

DO-201AD Dimension



DO-201AD Molded Plastic Package
CYStek Package Code: LD

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	φ0.048	φ0.052	φ1.20	φ1.30	D	1.000	-	25.40	-
B	1.000	-	25.40	-	E	φ0.190	φ0.210	φ4.80	φ5.30
C	0.285	0.375	7.20	9.50					

Notes : 1.Controlling dimension : millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material :

- Lead : Axial leads, solderable per MIL-STD-750, Method 2026 guaranteed.
- Mold Compound : Epoxy resin family, flammability solid burning class: UL94V-0

Important Notice:

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