



# THE DATASHEET OF ER5J-TP



## Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Super Fast Recovery Times for High Efficiency
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value						Unit
		ER5A	ER5B	ER5C	ER5D	ER5G	ER5J	
Peak Repetitive Reverse Voltage	$V_{RRM}$							V
Working Peak Reverse Voltage	$V_{RWM}$	50	100	150	200	400	600	
DC Blocking Voltage	$V_R$							
RMS Reverse Voltage	$V_{RMS}$	35	70	105	140	280	420	V
Average Rectified Forward Current @ $T_L=75^\circ\text{C}$	$I_{F(AV)}$	5						A
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	$I_{FSM}$	175						A
Non-Repetitive Peak Surge Current @1ms Half Sine Wave		280						
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$	$I^2t$	127						A <sup>2</sup> s

## Marking Code

Part Number	Marking Code
ER5A	ER5A
ER5B	ER5B
ER5C	ER5C
ER5D	ER5D
ER5G	ER5G
ER5J	ER5J

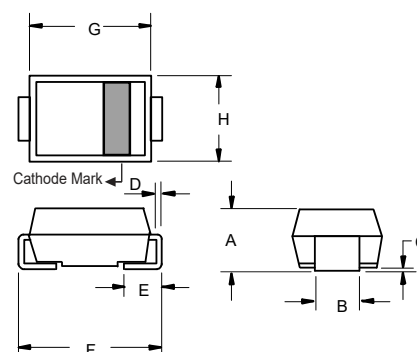
## Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	<p>XXXX = Marking Code</p>	
2	Anode		

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

# 5 Amp Super Fast Recovery Rectifier 50 to 600 Volts

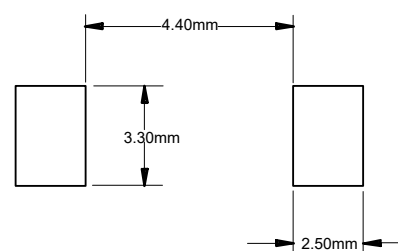
## SMC (DO-214AB)



### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.108	0.128	2.75	3.25	
C	0.002	0.008	0.051	0.203	
D	0.006	0.012	0.152	0.305	
E	0.030	0.060	0.76	1.52	
F	0.305	0.320	7.75	8.13	
G	0.260	0.280	6.60	7.11	
H	0.220	0.245	5.59	6.22	

### Suggested Solder Pad Layout



## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		150	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		15		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		65		°C/W

Note:

1. Mounted on P.C.B. with 16mm\*16mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage ER5A ~ ER5D ER5G ER5J	$V_F$	$I_F=5A; T_J=25^\circ C$			1.0 1.3 1.7	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^\circ C$ at Rated $V_R; T_J=125^\circ C$			5 100	$\mu A$
Reverse Recovery Time	$t_{rr}$	$I_F=0.5A; I_R=1.0A;$ $I_{rr}=0.25A; T_J=25^\circ C$			35	ns
Junction Capacitance ER5A ~ ER5D ER5G ER5J	$C_J$	$V_R=4V; f=1MHz; T_J=25^\circ C$		75 37 28		pF

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

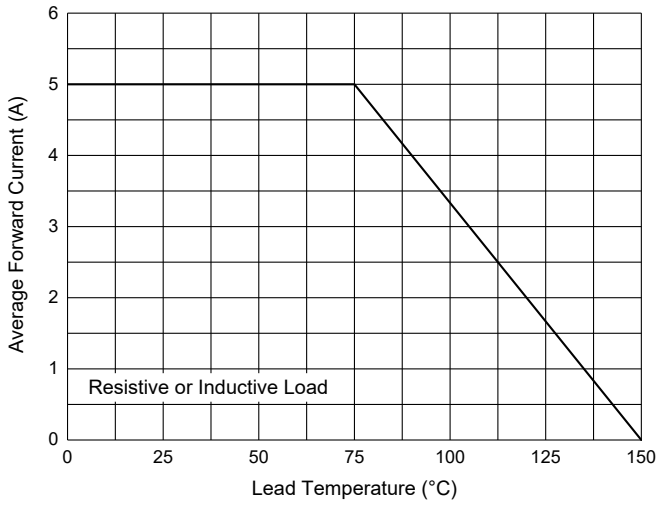


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

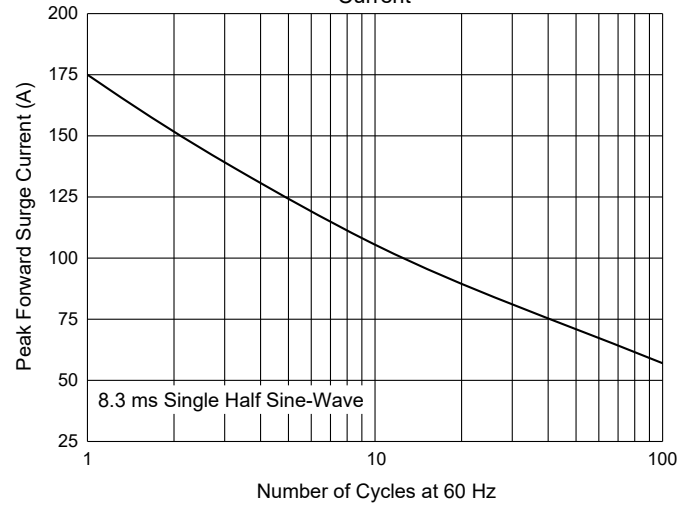


Fig. 3 - Typical Forward Characteristics

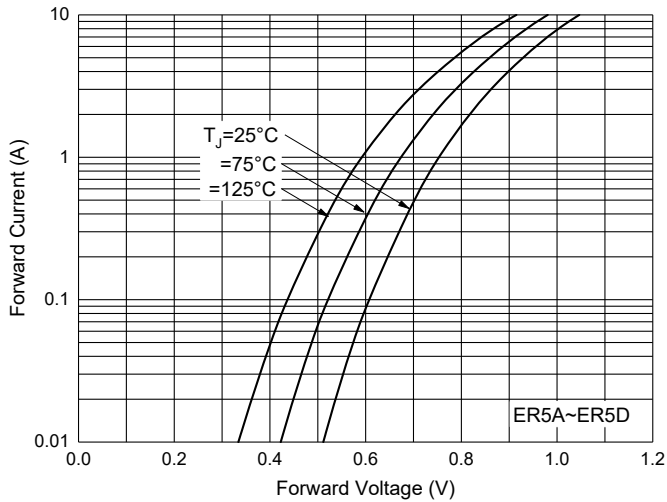


Fig. 4 - Typical Forward Characteristics

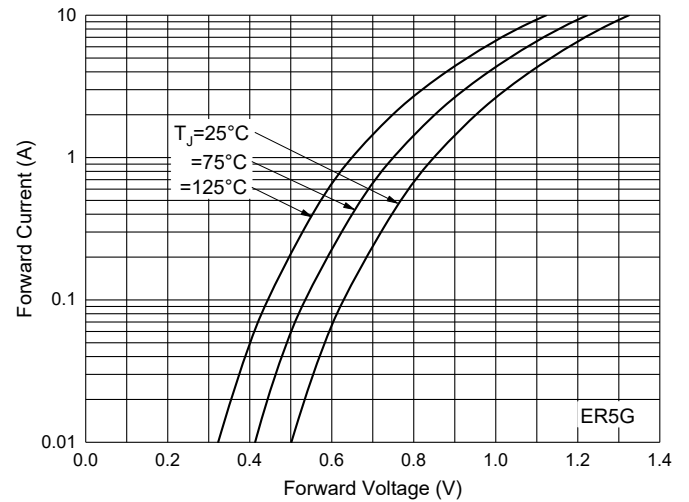


Fig. 5 - Typical Forward Characteristics

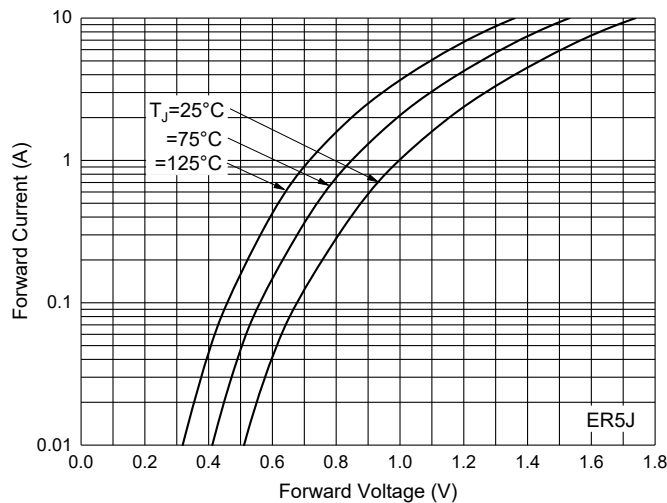
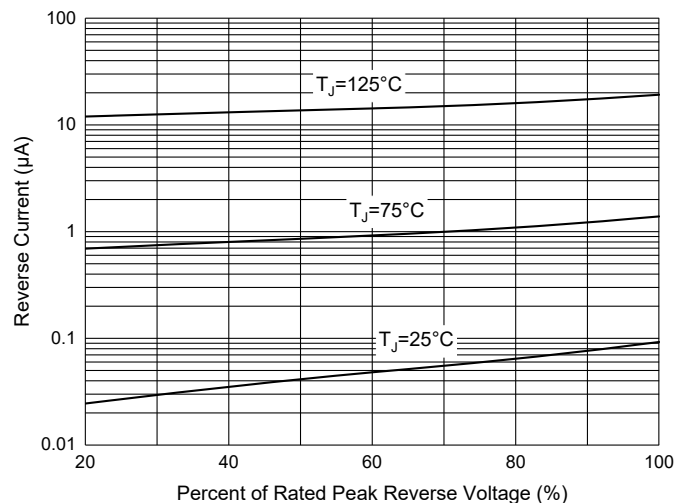
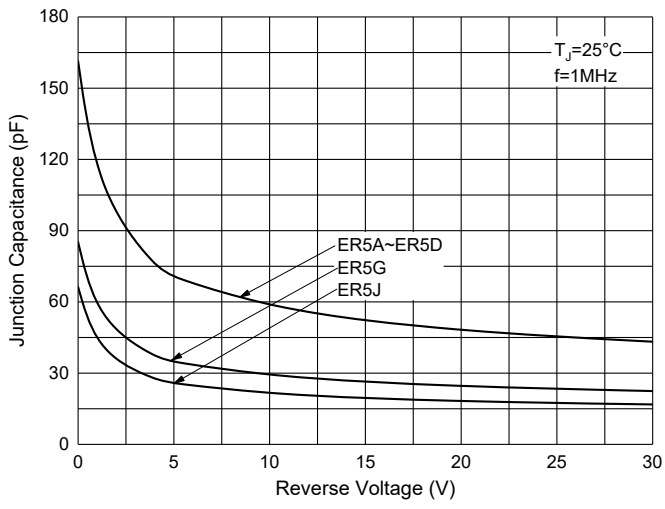


Fig. 6 - Typical Reverse Leakage Characteristics



## Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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