

Features

- $I_{F(AV)}$ 20A
- V_{RRM} 45V
- High surge current capability
- Low peak forward voltage

Applications

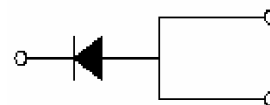
- Rectifier

Marking

- ST2045L:ST2045L



TO-277 top view



Schematic diagram



Halogen-Free

Limiting Values(Absolute Maximum Rating)

Symbol	Parameter	Test Conditions	ST2045L	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		45	V
V_{RMS}	Maximum RMS Voltage		32	V
$I_{F(AV)}$	Average Forward Current	60Hz Half-sine wave, Resistance load, $T_a=125^{\circ}\text{C}$	20	A
I_{FSM}	Surge(Non-repetitive)Forward Current	60Hz Half-sine wave, 1 cycle, $T_a=25^{\circ}\text{C}$	280	A
T_J	Junction Temperature		-55 ~ +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature		-55 ~ +150	$^{\circ}\text{C}$

Electrical Characteristics (T=25°C Unless otherwise specified)

Symbol	Parameter	Condition	ST2045L	Unit
V_F	Peak Forward Voltage	$I_F=20.0\text{A}$ $T_a=25^{\circ}\text{C}$	0.47(TYP) 0.52(MAX)	V
		$I_F=20.0\text{A}$ $T_a=125^{\circ}\text{C}$	0.41(TYP) 0.46(MAX)	
I_{RRM1}	Peak Reverse Current	$V_{RM}=V_{RRM}$ $T_a=25^{\circ}\text{C}$	0.03(TYP) 0.20(MAX)	mA
I_{RRM2}		$V_{RM}=V_{RRM}$ $T_a=125^{\circ}\text{C}$	20(TYP) 50(MAX)	
$R_{\theta J-A}$	Thermal Resistance(Typical)	Between junction and ambient	80	$^{\circ}\text{C/W}$
$R_{\theta J-L}$		Between junction and terminal	5	
C_J	Typical junction capacitance	$V_R=4.0\text{V}$, $f=1\text{MHz}$	0.95	nF

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

Typical Operating Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

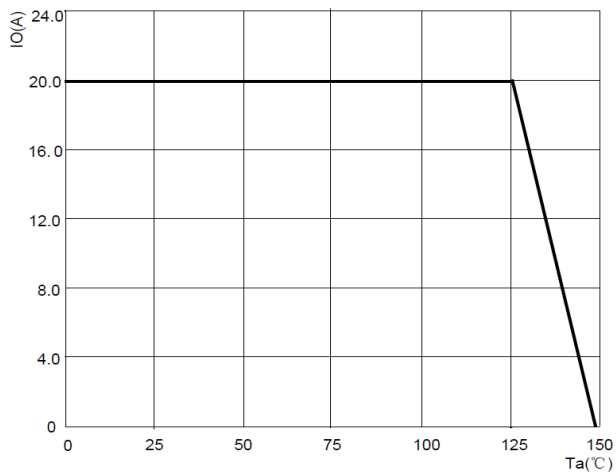


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

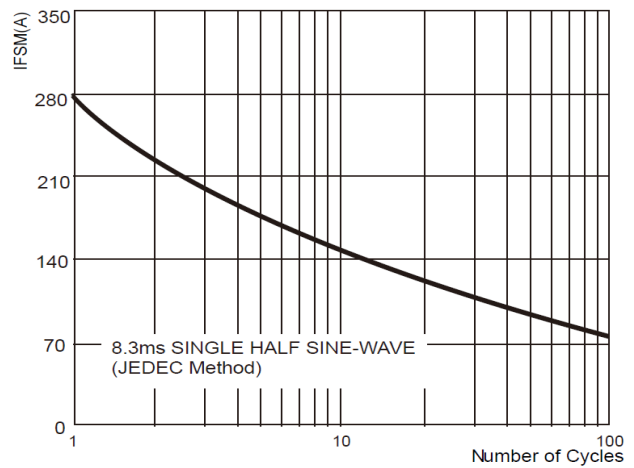


FIG.3: INSTANTANEOUS FORWARD CHARACTERISTICS

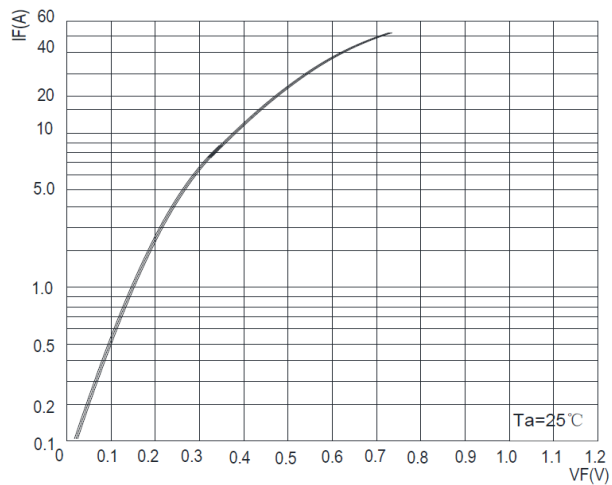
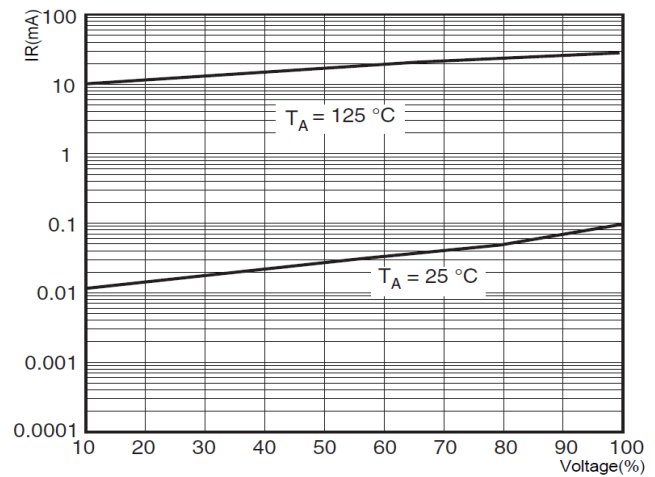
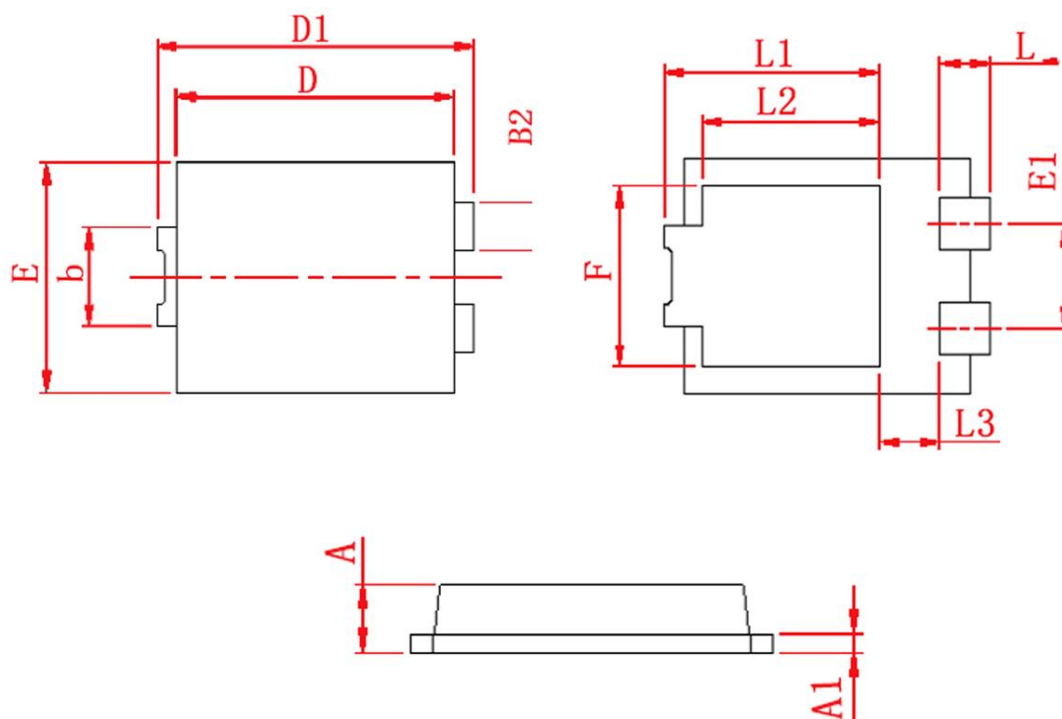


FIG.4: TYPICAL REVERSE CHARACTERISTICS



TO-277 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
D1	6.400	6.600	0.252	0.260
D	5.600	5.800	0.220	0.228
E	4.100	4.300	0.161	0.169
b	1.700	1.900	0.067	0.075
B2	0.800	1.000	0.031	0.039
A	1.050	1.200	0.041	0.047
A1	0.300	0.400	0.012	0.016
L	0.850	1.100	0.033	0.043
L1	4.200	4.400	0.165	0.173
L2	3.52Typ		0.139Typ	
L3	1.100	1.400	0.043	0.055
F	3.000	3.300	0.118	0.130
E1	1.86Typ		0.073Typ	