

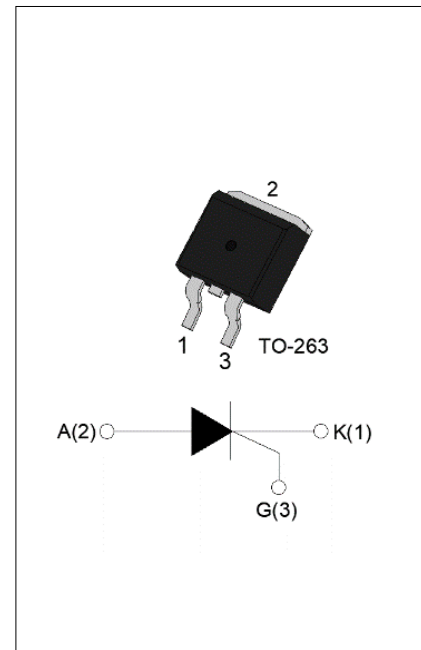


DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT855EH SCR provides high dV/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. Package TO-263 is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	55	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	≤ 15	mA



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-150	$^{\circ}C$
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
Average on-state current ($T_c \leq 126^{\circ}C$)	$I_{T(AV)}$	35	A
RMS on-state current ($T_c \leq 126^{\circ}C$)	$I_{T(RMS)}$	55	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^{\circ}C$)	I_{TSM}	515	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^{\circ}C$)		560	
I^2t value for fusing ($t_p=10ms, T_j=25^{\circ}C$)	I^2t	1326	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}, f=100Hz, T_j=150^{\circ}C$)	di/dt	150	$A/\mu s$
Peak gate current ($t_p=20\mu s, T_j=150^{\circ}C$)	I_{GM}	5	A
Average gate power dissipation ($T_j=150^{\circ}C$)	$P_{G(AV)}$	1	W

Peak gate power	P_{GM}	20	W
Peak pulse voltage ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG.8)	V_{pp}	2.5	kV

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	-	-	15	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=150^{\circ}\text{C}$ $R_L=3.3\text{k}\Omega$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	60	mA
I_H	$I_T=500\text{mA}$	-	-	50	mA
dV/dt	$V_D=540\text{V}$ Gate Open $T_j=125^{\circ}\text{C}$	1000	-	-	V/ μs
	$V_D=540\text{V}$ Gate Open $T_j=150^{\circ}\text{C}$	500	-	-	
t_{on}	$I_G=40\text{mA}$ $I_A=400\text{mA}$ $I_R=40\text{mA}$ $T_j=25^{\circ}\text{C}$	-	2	-	μs
t_{off}		-	50	-	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=100\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
V_{TO}	Threshold voltage	$T_j=150^{\circ}\text{C}$	0.62	V
R_D	Dynamic resistance	$T_j=150^{\circ}\text{C}$	16	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=150^{\circ}\text{C}$	15	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	0.35	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC, in free air)	60	$^{\circ}\text{C/W}$

ORDERING INFORMATION

J	CT	8	55	E	H	-/
JieJie Microelectronics Co., Ltd.	SCRs	8: $V_{DRM}/V_{RRM} \geq 800V$	$I_{T(RMS)}: 55A$	E: TO-263	High junction temperature	Blank: Tube -TR: Tape & Reel

MARKING

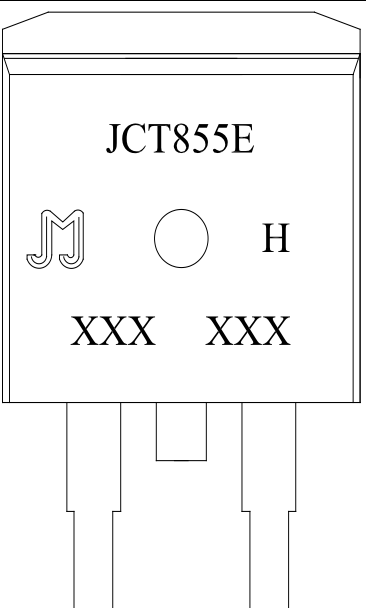
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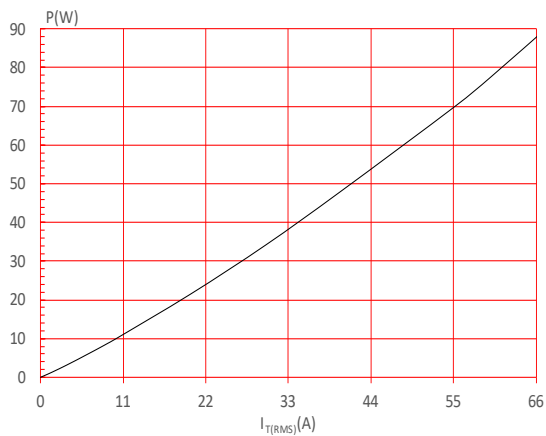
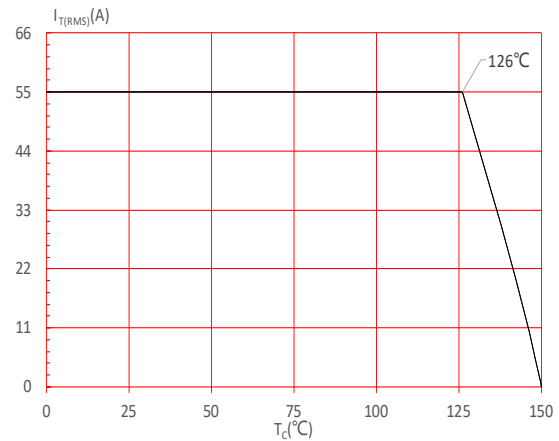
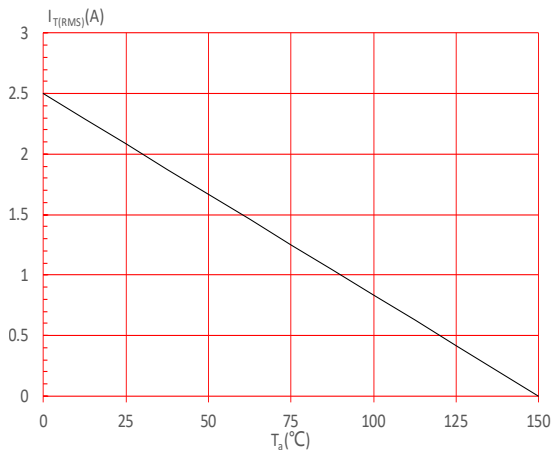
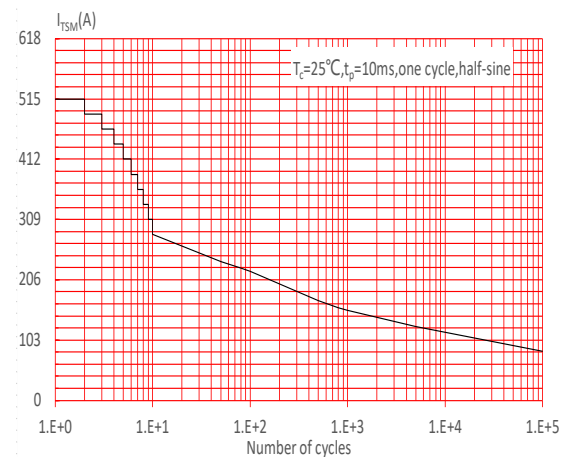
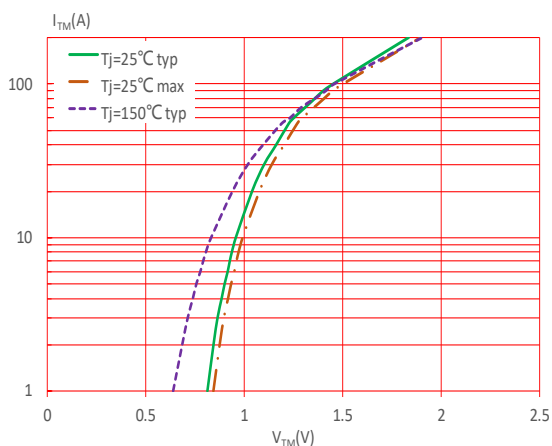
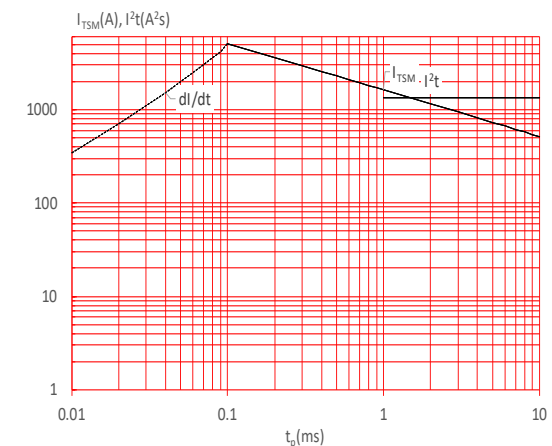
FIG.1: Maximum power dissipation versus RMS on-state current

FIG.2: RMS on-state current versus case temperature

FIG.3: RMS on-state current versus ambient temperature (printed circuit board FR4,copper thickness:35μm)(full cycle)

FIG.4: Surge peak on-state current versus number of cycles

FIG.5: On-state characteristics

FIG.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t ($di/dt < 150A/μs$)


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

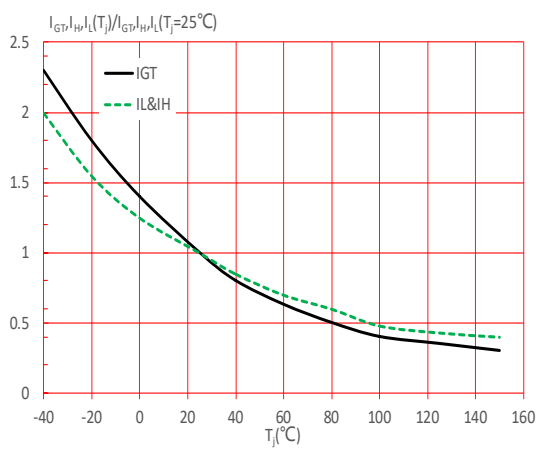
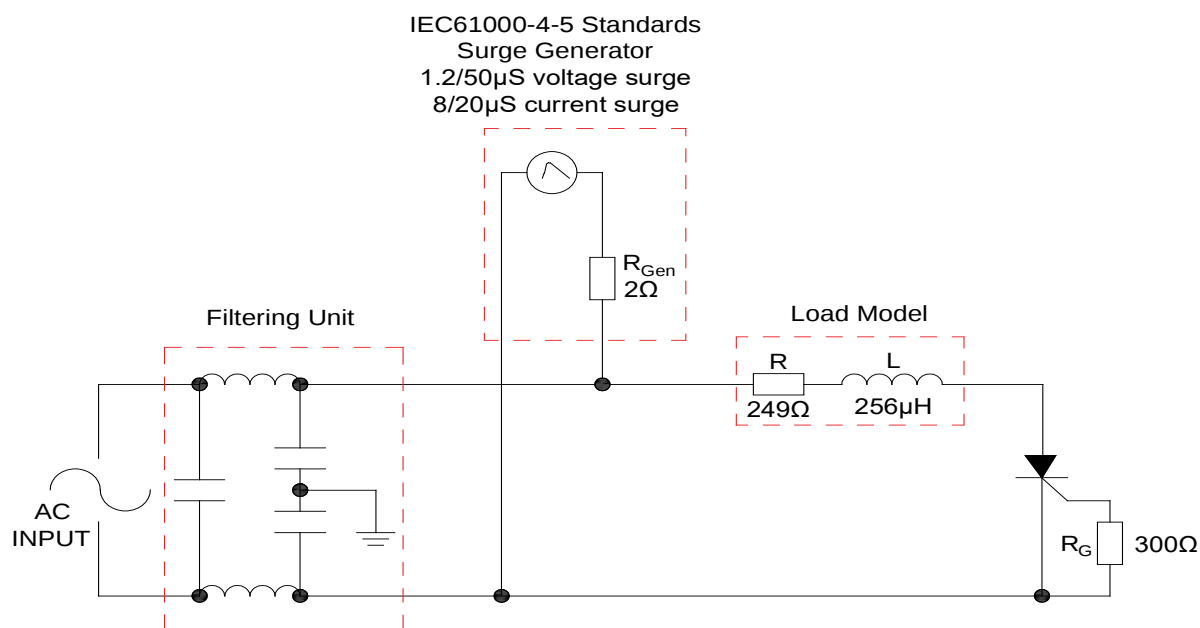
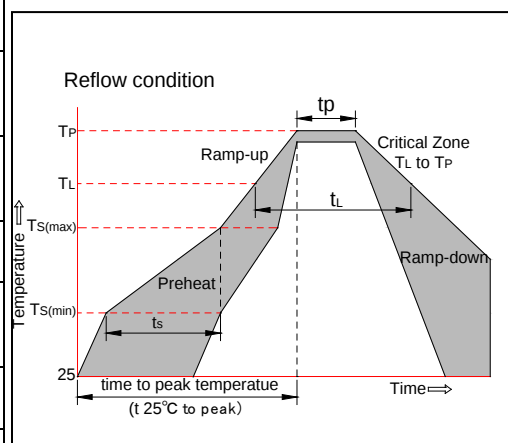


FIG.8: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min (T _{S(min)})	+150°C
	-Temperature Max(T _{S(max)})	+200°C
	-Time (Min to Max) (t _s)	60-180 secs.
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)	60-150 secs.
Peak Temp (T _p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t _p)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T _p)		8 min. Max
Do not exceed		+260°C



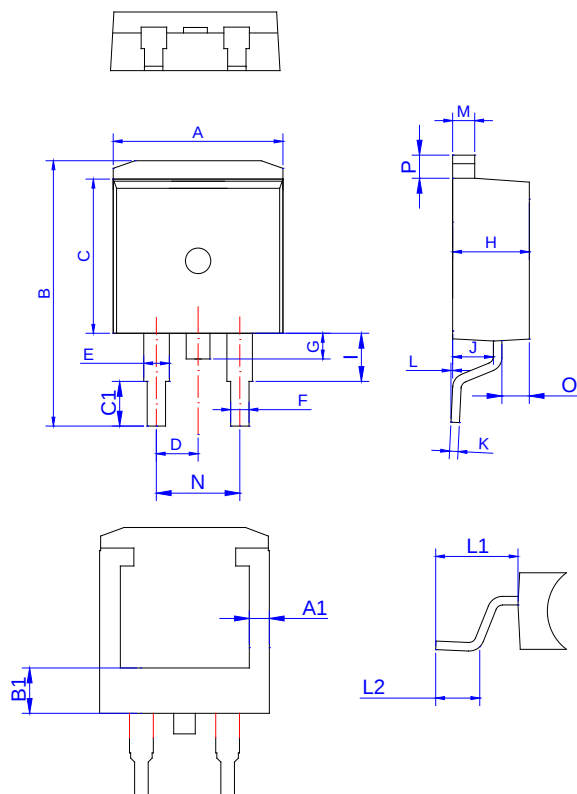
ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT855EH	800	15	TO-263	50	Tube
JCT855EH-TR				800	Tape & Reel

Document Revision History

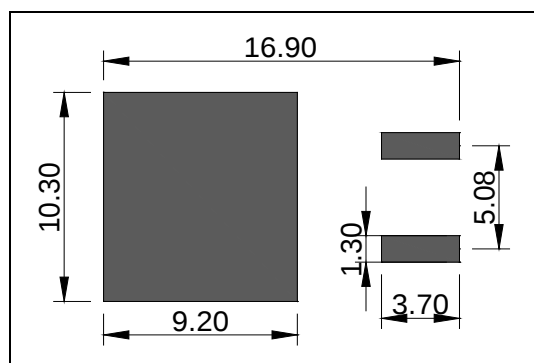
Date	Revision	Changes
Jun.20, 2023	A.1.0	Last update
Oct.16, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
A1	0.80		1.20	0.031		0.047
B	14.70		15.80	0.579		0.622
B1	2.15		2.55	0.085		0.100
C	9.40		9.60	0.370		0.378
C1	2.40		2.80	0.094		0.110
D	2.40		2.70	0.094		0.106
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G	1.00		1.50	0.039		0.059
H	4.40		4.70	0.173		0.185
I	1.80		2.20			
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
L1	4.65		5.05	0.183		0.199
L2	1.90			0.075		
M	1.25		1.35	0.049		0.053
N	4.80		5.20			
O	1.30		1.50			
P	1.20		1.50	0.047		0.059

FOOTPRINT-TO-263 (dimensions in mm)



Technical drawing of a mechanical part, showing front and side views with dimensions.

Front View (Left):

- Overall width: 530 ± 0.5
- Distance from left edge to center of hole: 518
- Distance from center of hole to right edge: 12.9
- Hole diameter: $\varnothing 3.0$
- Surface finish symbol: $\sqrt{0.05}$

Side View (Right):

- Overall height: $7 \begin{smallmatrix} 0 \\ -0.2 \end{smallmatrix}$
- Distance from top edge to center of hole: 1.5
- Distance from center of hole to bottom edge: 1.5
- Distance from bottom edge to center of hole: 0.6
- Distance from center of hole to right edge: 2.6
- Distance from top edge to center of hole: 17.9
- Distance from center of hole to bottom edge: 10.8

Technical drawing of a 4-hole circular plate. The drawing includes a top view, a side view (B-B), and a detail view (A-A).

Top View Dimensions:

- Overall diameter: $\phi 330$
- Inner diameter of the central hole: $\phi 13$
- Distance from center to the center of a hole: $\phi 100$
- Distance from the center of a hole to the outer edge: $\phi 276$
- Distance between the centers of two adjacent holes: $\phi 276$
- Distance from the center of a hole to the outer edge (radial distance): $\phi 100$
- Distance from the center of a hole to the outer edge (tangential distance): $\phi 276$
- Distance from the center of a hole to the outer edge (radial distance): $\phi 100$
- Distance from the center of a hole to the outer edge (tangential distance): $\phi 276$
- Distance from the center of a hole to the outer edge (radial distance): $\phi 100$
- Distance from the center of a hole to the outer edge (tangential distance): $\phi 276$

Side View (B-B) Dimensions:

- Overall thickness: t
- Distance from the top surface to the center of a hole: 10.6
- Distance from the center of a hole to the bottom surface: 4.20 ± 0.1
- Distance from the center of a hole to the outer edge: 4.20 ± 0.1
- Distance from the center of a hole to the outer edge: 4.20 ± 0.1
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- Distance from the center of a hole to the outer edge: 4.20 ± 0.1
- Distance from the center of a hole to the outer edge: 4.20 ± 0.1

Detail View (A-A) Dimensions:

- Angle: 10°

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
W	23.70	24.00	24.30	0.933	0.945	0.957
E	1.65	1.75	1.85	0.065	0.069	0.073
F	11.40	11.50	11.60	0.449	0.453	0.457
D0	-	1.50	1.60	-	0.059	0.063
D1	-	1.50	1.60	-	0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	15.90	16.00	16.10	0.626	0.630	0.634
P2	1.90	2.00	2.10	0.075	0.079	0.083
A0	10.80	10.90	11.00	0.425	0.429	0.433
B0	16.20	16.30	16.40	0.638	0.642	0.646
K0	4.80	4.90	5.00	0.189	0.193	0.197
t	0.35	0.40	0.45	0.014	0.016	0.018

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