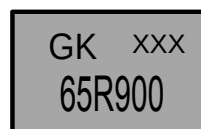


Features

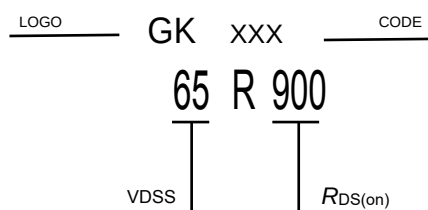
Ultra low $R_{DS(on)}$
Ultra low gate charge (typ. $Q_g=10nC$)
100% UIS tested
RoHS compliant

V_{DSS} 650 V
 I_D 4 A
 $R_{DS(ON)}$ 0.908 Ω

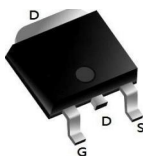


Applications

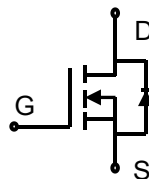
Power factor correction (PFC).
Switched mode power supplies (SMPS).
Uninterruptible power supply (UPS).



TO-252



Equivalent Circuit



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (@ $T = 25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	650	V
Continuous drain current ¹⁾ ($T_C = 25^{\circ}C$)	I_D	4	A
($T_C = 100^{\circ}C$)		3.2	A
Pulsed drain current ²⁾	I_{DM}	12	A
Gate-Source voltage	V_{GSS}	± 30	V
Avalanche energy, single pulse ³⁾	E_{AS}	120	mJ
Power Dissipation	P_D	60	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}C$
Continuous diode forward current	I_S	4	A
Diode pulse current	$I_{S,pulse}$	12	A

RATING AND CHARACTERISTIC CURVES

Fig 1: Output Characteristics

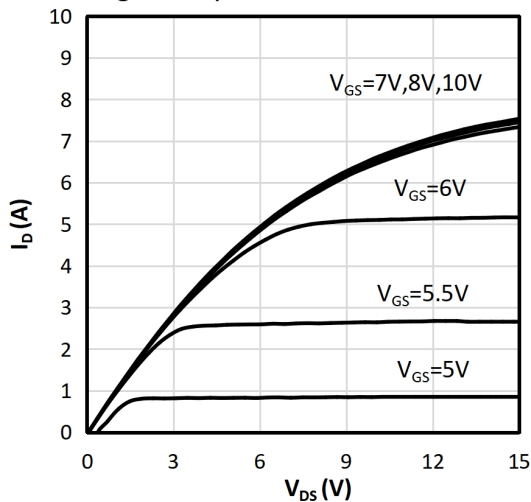


Fig 2: Transfer Characteristics

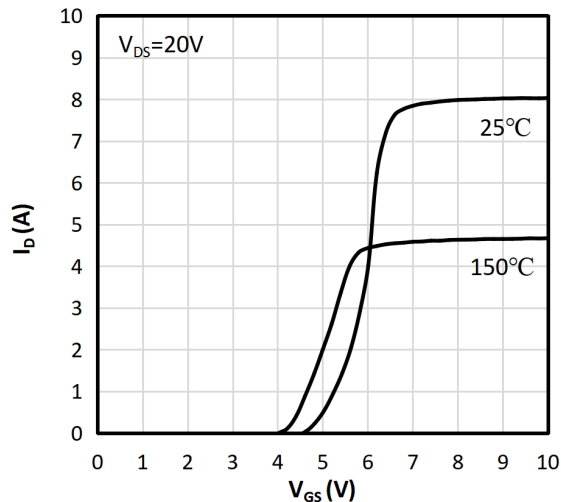


Fig 3: $R_{DS(on)}$ vs Drain Current

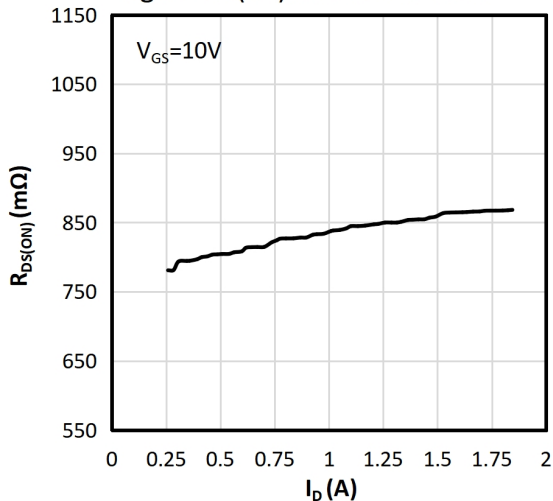


Fig 4: $R_{DS(on)}$ vs. Temperature

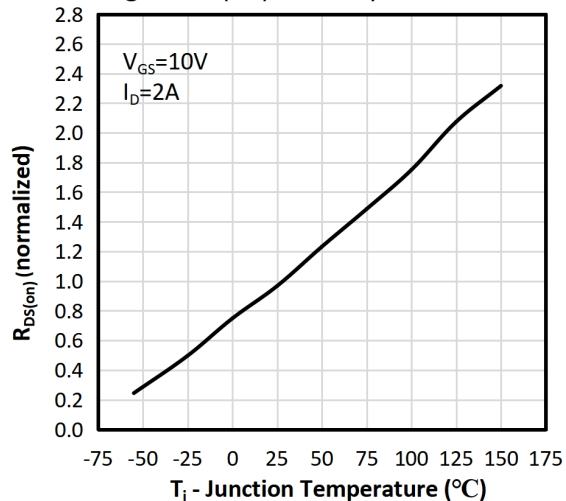


Fig 5: Breakdown Voltage vs. Temperature

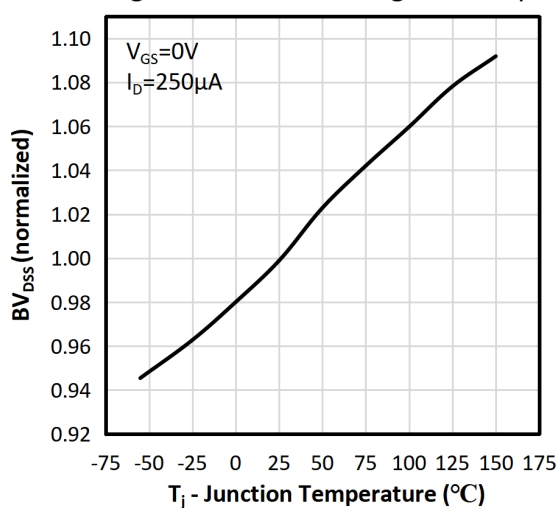
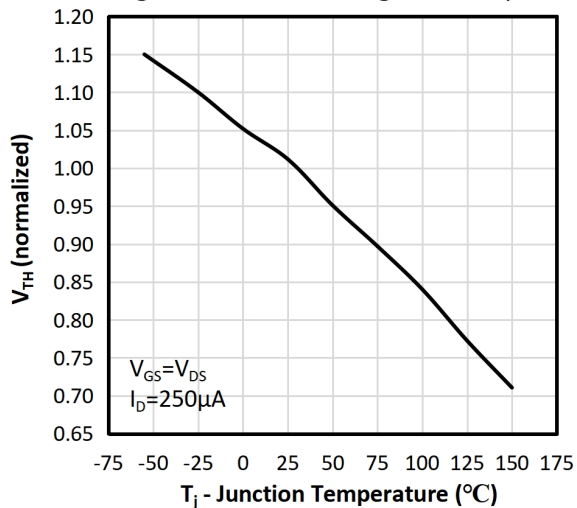
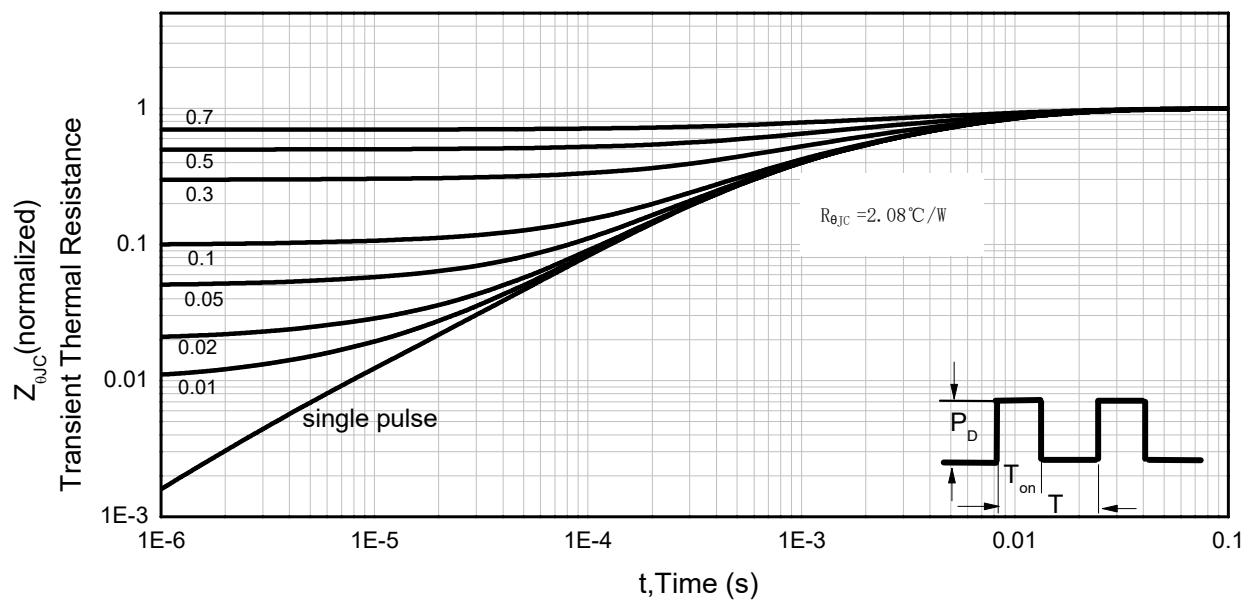


Fig 6: Threshold voltage vs. Temperature

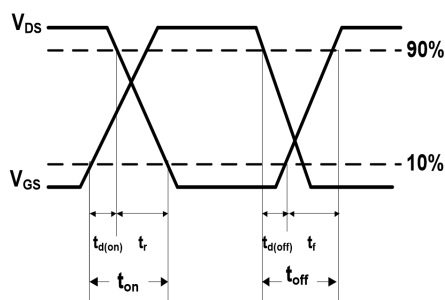
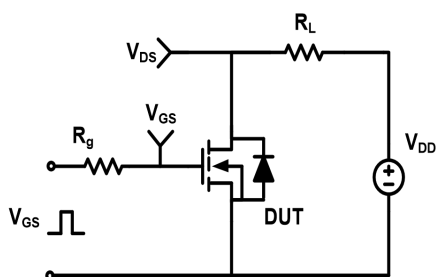


RATING AND CHARACTERISTIC CURVES

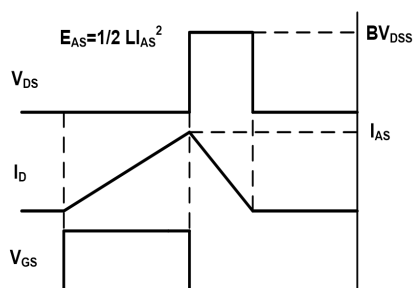
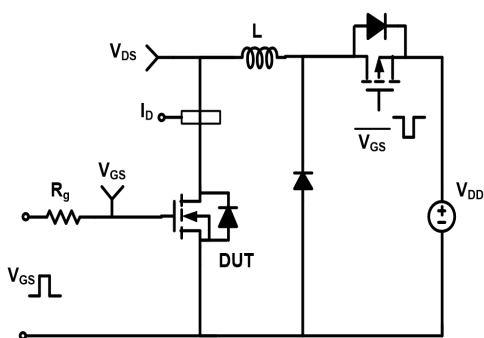
Figure 13. Normalized Maximum Transient Thermal Impedance (R_{thJC})



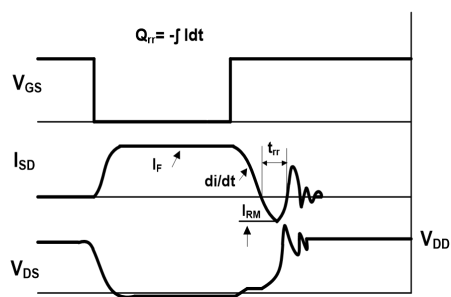
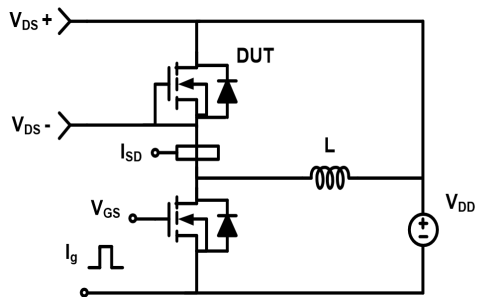
Test Circuit



Unclamped Inductive Switching (UIS) Test Circuit & Waveform

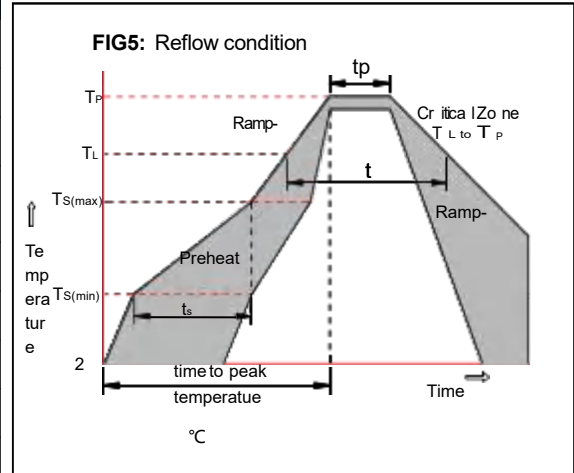


Diode Recovery Test Circuit & Waveform



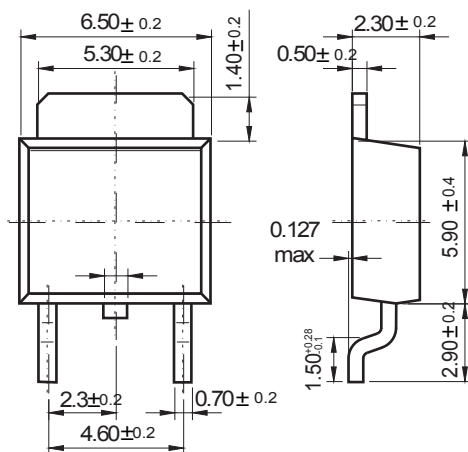
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us 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)(Liquid us)	+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)		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

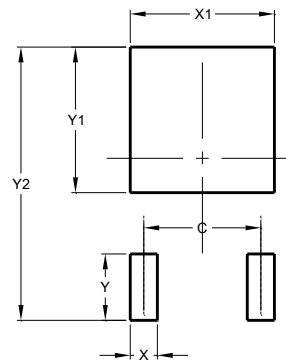


Package Dimensions & Suggested Pad Layout

TO-252



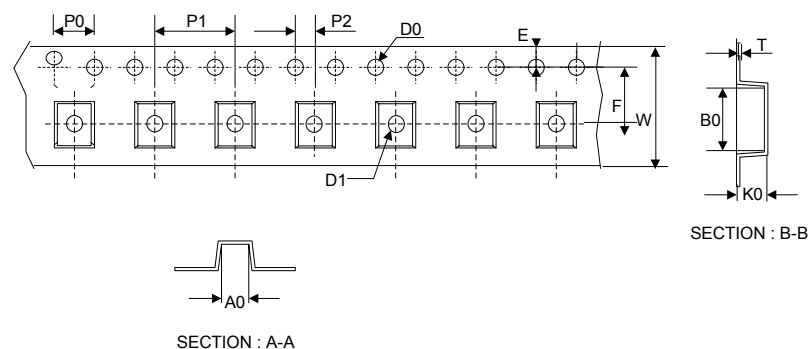
Dimensions in inches and (millimeters)



Dimensions	Value (in mm)
C	4.55
X	1.50
X1	5.80
Y	2.70
Y1	6.00
Y2	10.90

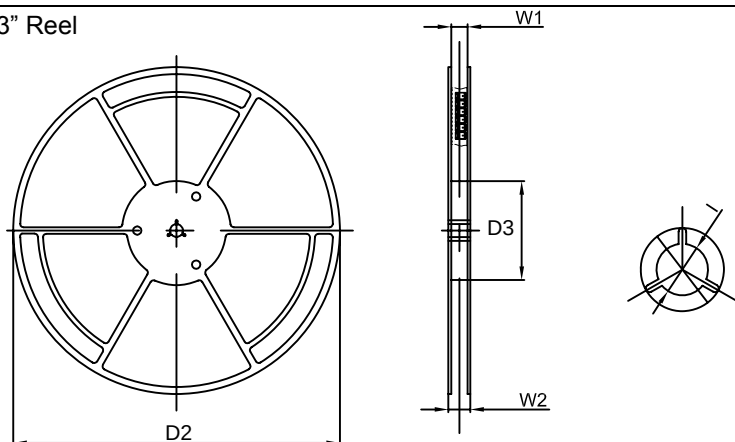
Tape & reel specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	8.00±0.20
P2	2.00±0.20
D0	1.55±0.15
D1	1.55±0.20
E	1.75±0.20
F	7.50±0.20
W	16.00±0.20
A0	7.10±0.20
B0	10.50±0.20
K0	2.70±0.20
T	0.30±0.10
D2	330.0±5.0
D3	100.0±4.0
W1	20.0±5.0
W2	25.0±5.0
I	13.0±2.0

13" Reel



Quantity: 2500PCS